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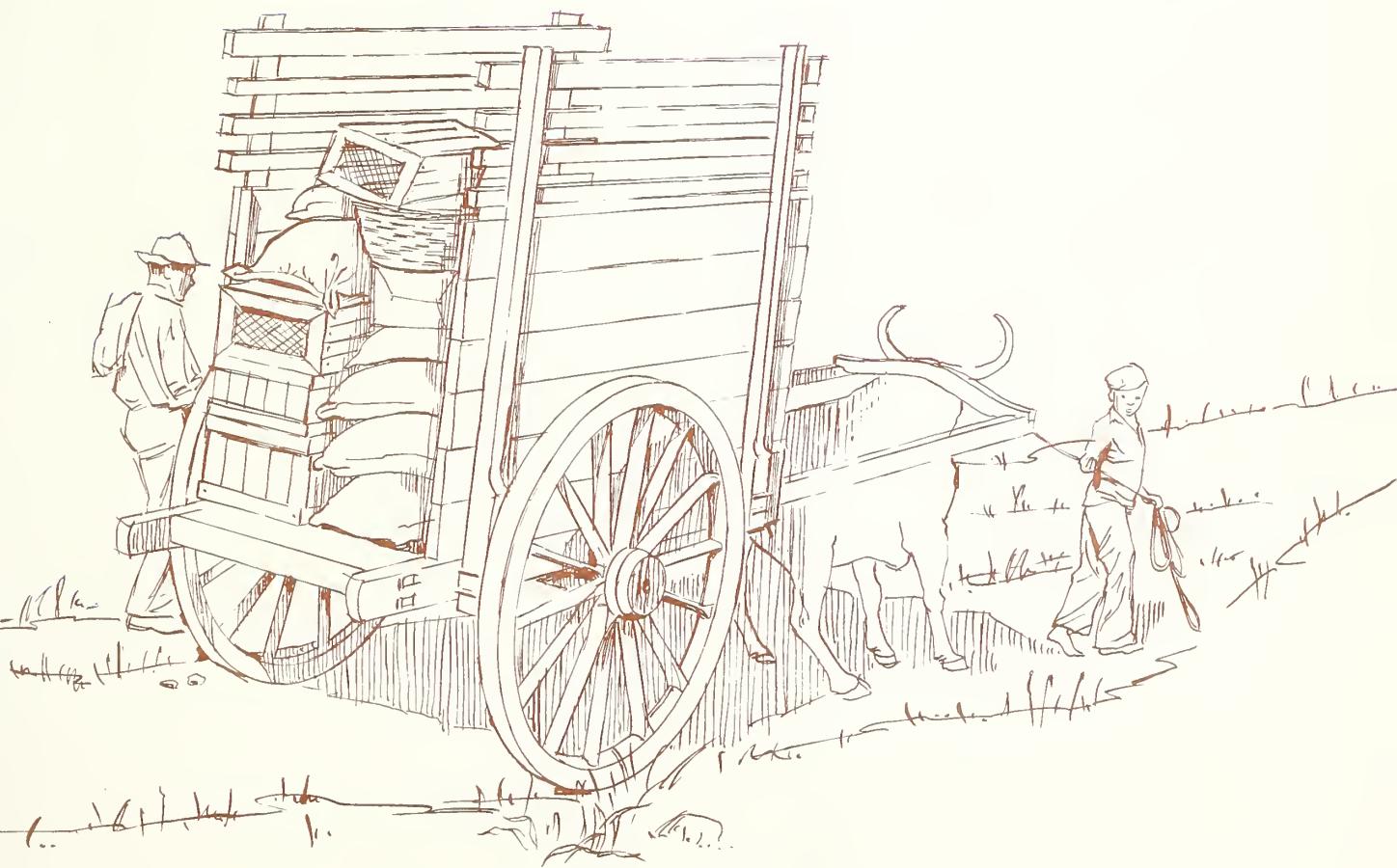


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# The Marketing Challenge

*Distributing Increased Production  
in Developing Nations*



Economic Research Service • U.S. Department of Agriculture  
cooperating with U.S. Agency for International Development

## ABSTRACT

Inadequate transportation and storage, poor market information, lack of capital, and other chronic marketing problems in developing countries have been dramatized by recent production increases. To focus more attention and resources on food marketing in developing nations, U.S. Agency for International Development and U.S. Department of Agriculture held a seminar in Washington, D.C., to discuss these problems and set priorities for AID/USDA efforts. Major topics covered include key considerations in marketing policies, marketing enterprises and the flow of resources into marketing functions, nutrition and marketing food for the needy, efficiency in the marketing system, regional experiences in marketing problems and priorities, and approaches to technical assistance. There was a consensus that marketing problems need to be dealt with on an integrated national basis which serves producers, consumers, and national development goals. A number of specific areas of activity were given high priority: 1) better identification of technical assistance and research needs in marketing; 2) improvement of marketing management capability; and 3) providing more adequate marketing information for consumers, producers, and distributors.

**KEY WORDS:** Marketing, food distribution, marketing in developing countries (less developed countries); technical assistance in marketing.

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# The Marketing Challenge

*Distributing Increased Production  
in Developing Nations*

Proceedings of a Conference in Washington, D.C.  
June 18-19, 1970

Compiled by Martin Kriesberg  
Foreign Economic Development Service  
U.S. Department of Agriculture

*The subject of agricultural marketing in developing countries is as important as it is complex. The U. S. Agency for International Development/U. S. Department of Agriculture agreement for marketing work underscores the importance we attach to food marketing problems in these countries and is part of our effort to deal with these problems constructively.*

Joel Bernstein  
Assistant Administrator,  
Bureau for Technical Assistance  
Agency for International Development

*The USDA has had long experience in working on marketing problems at home and abroad. These experiences are increasingly relevant for developing countries as they move forward in the development of their agriculture. We are pleased to be associated with AID in this important new undertaking.*

Quentin M. West  
Administrator, Foreign Economic  
Development Service  
U. S. Department of Agriculture

## PREFACE

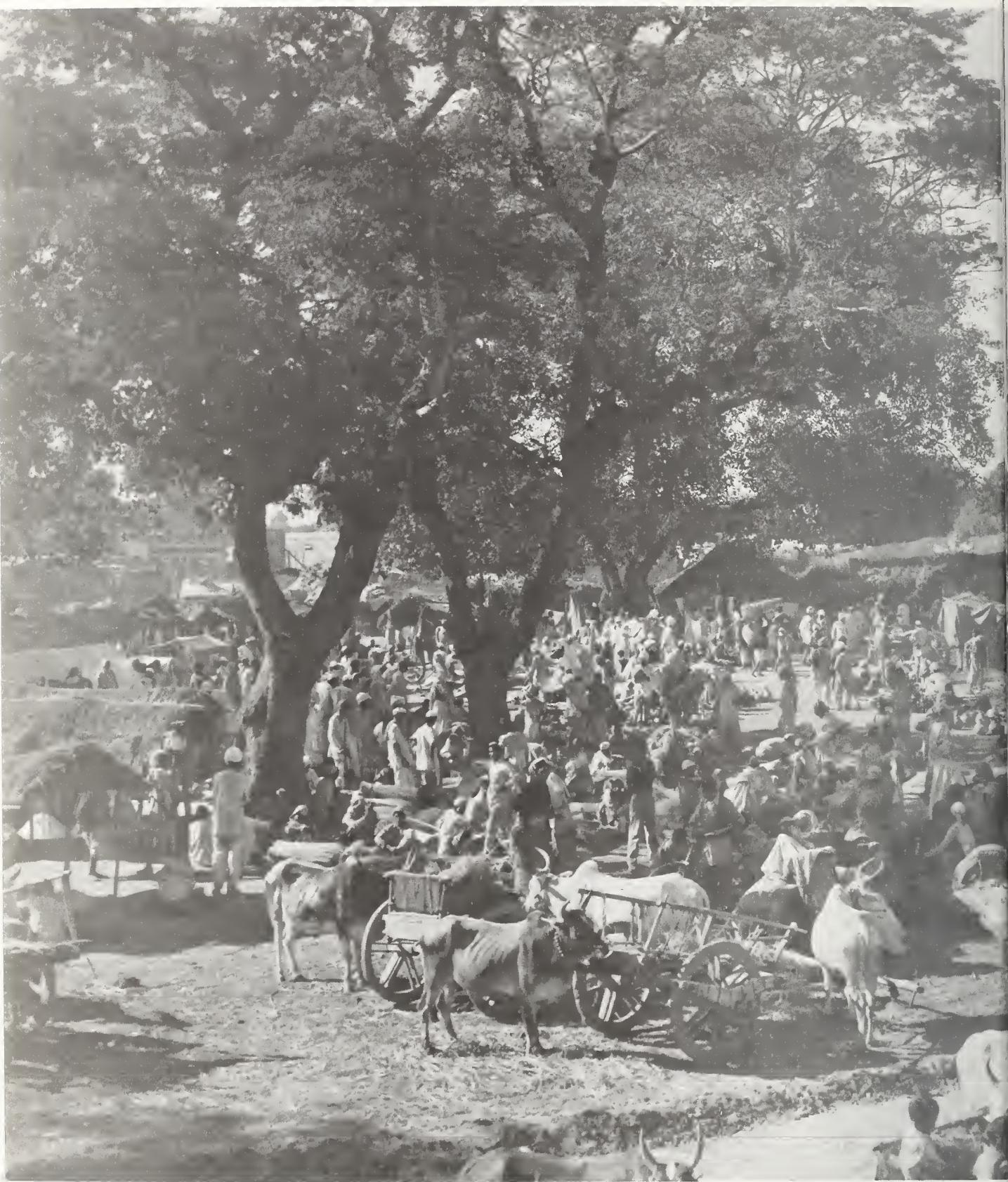
This publication is based upon a seminar sponsored by the U. S. Agency for International Development and the U. S. Department of Agriculture, held in Washington, D. C., June 18-19, 1970. The purpose of the seminar was to provide guidance for AID-USDA efforts to improve food marketing in developing countries.

Martin Kriesberg, Director of the Program Development and Analysis Staff in USDA's Foreign Economic Development Service, organized the seminar in co-operation with Douglas Caton, AID/TA/SPEC, W. F. Johnson, AID/TA/AGF, and Lloyd Holmes, USDA. Bob Spade, James Sayre, and Dave Winkelmann of USDA assisted with the preparation of this publication.

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## INTRODUCTORY STATEMENTS

1. Ervin L. Peterson,  
Deputy Assistant Administrator,  
Bureau for Technical Assistance, AID.

2. Don Paarlberg,  
Director, Agricultural Economics,  
USDA.

3. Martin Kriesberg,  
Director, Program Development and  
Analysis, Foreign Economic  
Development Service, USDA.



# 1.

This planning seminar on technical assistance in food marketing is tangible and visible evidence of the responsiveness and cooperation between agencies of government, the academic community, and private enterprise to deal with a major problem facing most, if not all, developing countries. This assembly, one of many similar ones which have been held in the past and which will be held in the future, also reflects what I hope is a growing awareness of the American public that development assistance extended by us to the developing nations is an investment directed toward achieving a more stable and peaceful world community. We do not anticipate a world without change but, rather, a world wherein change is purposeful and orderly, peaceful and constructive, as contrasted with violence and destruction. This is a world where change enriches the lives of people and fairly distributes the fruits of human effort; where institutions, public and private, serve the wants and needs of people; and where life for all is exciting and rewarding, rather than empty and without purpose of fulfillment.

Our task here is to develop ways and means by which the achievements of past efforts and anticipated future achievements may be more effectively and efficiently made available to the people in the countries where the achievements occur. More specifically, how can increased food production be best marketed? What marketing arrangements best serve the purpose of sustaining and further stimulating the food production achievements attained and expected? What kind of marketing system best serves to most fairly distribute the end value of the food produced; to maintain reasonable price stability to producers and consumers; to encourage capital formation; to create larger opportunities for employment; to encourage private investment in marketing enterprises; and to achieve the most complete utilization of what is produced?

These are but some of the questions to be addressed. Of those which you will consider, what is the order of priority? Where do they fit in a marketing strategy? How may marketing systems be modified to fit needs and capabilities as they exist in different countries? And how do the competitive advantages of different countries or regions affect marketing opportunities and cropping patterns?

It is not my purpose to either map out the directions for your attention or to anticipate the nature of the problems to which you will be directing your attention; rather, it is to try to emphasize the complexity and diversity of the subject for your consideration.

As you proceed, I commend to your attention the use of what I call tri-vision. I believe this is needed to simultaneously see the institutional organizations, implementing mechanisms, and divisions of participation between public agencies and private entrepreneurs which appear, to me, to be involved in a marketing system, be it modest or complex.

I conceive the institutional aspect as the public organization directly involved in the marketing system and responsible for both regulatory and service functions. The implementing mechanisms involve such elements as uniform weights and measures, standard packages, product grades and standards, product identity standards, sanitary protection, volume and price statistics, market news, and related activities. The public-private mix involves such aspects as storage, transport, grading, packaging, processing, distribution, and promotion. These references are not exhaustive. I mention them only as part of what I believe may well be included in your efforts to maintain a total perspective.

Your work here, of course, is preparatory to the development of a marketing strategy and market systems which, hopefully, will find practical application in the development process in many countries. Hopefully, it will help these countries bridge decades and centuries to the kind of modern world wherein attainment of human dignity and fullness of life are the common goals of men everywhere. May your work here be personally stimulating and collectively productive.

—Ervin L. Peterson,  
Deputy Assistant Administrator,  
Bureau for Technical Assistance,  
Agency for International Development.

## 2.

The USDA is pleased to join AID in this significant new undertaking. It is of utmost importance that the marketing systems of developing countries be improved so that increases in production, as they materialize, are translated into more food for the people of these countries. We know from our own domestic experience that it is not enough just to grow the crops; ways must be found to market these crops efficiently in the interest of consumers as well as producers. Ways must also be found to meet the needs of those who cannot pay full commercial prices for their food. It is timely that we devote more attention to these problems, and I salute those of you who have been in the vanguard of this work and for whom this seminar marks a milestone in your efforts.

Our assistance to help developing countries increase their production of food crops and improve their marketing systems is borne of a compassion for our fellow-men around the world—and enlightened self-interest too.

Agricultural development leads to economic development which, in turn, leads to improved incomes and increased demand for all products. The increased demand brings about expanded imports from those who have food crops to export. Since the income elasticity of demand for food in low income countries is relatively higher than for non-agricultural products, agricultural trade will expand faster than total trade. We believe that U. S. farmers, because they are efficient producers, will share in such increased trade.

As incomes increase in the developing countries, they also shift from concessional to commercial imports, in part to obtain a broader range of products. The demand for livestock products will increase faster than that for grain. Consumption of grain also shifts, with preference going to wheat and rice rather than coarse grains or more starchy foods.

There is, then, a positive relationship between both agricultural and economic growth rates and commercial agricultural imports from the United States. It is becoming clear that solid dollar markets are growing in the developing nations, and it seems to me that it is our place to help these markets grow. We do this through assistance to LDC agricultural growth, and particularly through the strengthening of their marketing systems.

Improved marketing plays a decisive role in sustaining agricultural growth. New high-yield technology will

languish and have limited impact on national economies if market systems and marketing facilities are inadequate to the increased load they will need to carry. There is the grim possibility that market constraints will inhibit increased production in countries just beginning to emerge from the shadow of food scarcities. If market prices and facilities do not accommodate increased production and farmers find that there is no profit in high-yield technology, they may well revert to earlier practices and lower output. It may be the ultimate tragedy that, having succeeded in reaching needed production capability, archaic marketing systems prevent the realization of a world without hunger.

There are some who fear that recent production success in food grains by a number of countries which were in short supply before heralds a period of competition in world markets between the United States and some of these countries. But, it is not at all certain that production in the erstwhile food-short countries will, in fact, exceed the needs of their own growing appetites for better quality as well as greater quantity of foods. And I would not be dismayed if some of these countries, on becoming efficient producers, found a place for some of their product in the world market. There may be some near-term adjustments in our own domestic programs of production and export; however, in the long run, helping these countries build healthy economies helps increase our chances of trade with them on a sound commercial basis.

As you know, I have been interested in the agricultural development of low income countries for many years. Agricultural development in these nations is a long and difficult process. But I know it is an effort which must be made for their good and ours. We in the Department of Agriculture recognize our responsibilities in this respect, and stand ready to commit our very best scientists and technicians in support of the Nation's foreign assistance program. I am proud that the people who make up the Department have the talents and the devotion to make a significant contribution in this worthwhile work.

—Don Paarlberg, USDA Director of Agricultural Economics, Office of the Secretary.

### 3.

Concern over domestic food marketing in developing countries is new and urgent. This publication and the seminar on which it is based are efforts toward better understanding of marketing systems and the need for improving their performance.

While farming was largely of a subsistence type, people produced what they ate and ate most of what they produced; they marketed very little. Today, as more and more farmers in developing countries produce in excess of their family needs, the proportion of their product moving to market is multiplying. The "green revolution" has sharpened awareness in many countries of how inadequate their marketing systems are.

Growing populations in these countries, the movement to urban areas away from subsistence farms, and rising incomes compound the demand for commercial foods and increase the dependence on marketing systems to satisfy the reciprocal needs of producer and consumer.

#### **MARKETING SERVES VARIED INTERESTS**

The marketing system is a critical factor in countries where the production technology is undergoing rapid change and a new commercial agriculture is taking place in food crops:

- If the marketing system does not serve the interests and needs of the producer (if his production does not move to market and bring him additional earnings), he will not be inclined to increase production. Recent gains in production, heralded as the "green revolution," would then be jeopardized.
- If the marketing system does not bring the food to consumers when they need it, at prices they can afford, and in forms which satisfy nutritional needs, then higher production will have little effect in alleviating world hunger. Policies and programs can be devised to increase and broaden effective demand for food and to improve the quality of diets of all socio-economic groups in developing nations.

• If adjustments are not made to bring supplies into appropriate balance with foreign and domestic market demand, scarce resources will be squandered, opportunities to earn foreign exchange will be lost, and agriculture will fail to make its full contribution to country development. In this respect, the marketing system is an important mechanism for allocating resources throughout the agricultural sector.

Hence, a marketing system serves the special interests of the cultivator, the consumer, and the distributor, influencing directly and decisively their overall standard of living. Marketing systems also serve the general interest of the nation by having agriculture contribute its full share to national development. How well a marketing system serves any one interest group varies widely from country to country. In evaluating the performance of a marketing system, its effectiveness in satisfying these several objectives must be taken into account.

#### **OTHER REASONS FOR EMPHASIZING MARKETING**

Two other aspects of our new concern for food marketing should be noted. First, efforts to improve the marketing of food come up against a critical issue confronting nations as they move forward in their development; namely, equity in the distribution of the goods of a more productive economy. Food is so basic that a political (as well as moral) case can be made for the proposition that, as production is increased, distribution should be improved also. Indeed, unless the increased product is more widely shared among the masses for whom demand elasticity for food is greatest, increased production will be constrained. And, if a case is made for food, there may be carry-overs to other aspects of the economy. This may lead to new efforts to have more people share in more productive societies, and this is at the heart of economic development.

Secondly, emphasis on the marketing aspects of agricultural development can also help shape the overall economies in countries where high-yield technology

takes hold. An implicit objective of U. S. foreign aid policy is to help bring about more open, equitable, and efficient economic systems in developing countries—economic systems in which private enterprise plays a larger role and private initiative is rewarded. These objectives are more likely to be attained through a market-oriented economy than through an atomistic-subsistence economy or a centrally-planned economy. A more broadly based commercial agriculture and a concern with the marketing system to support it can contribute to the growth of market economies in heretofore traditional agricultural societies.

#### FUNCTIONS INCLUDED IN MARKETING

What is marketing? What does it comprise? Agricultural marketing is made up of several specialized areas of activities. There are the functions of providing inputs for farming, such as fertilizers, pesticides, and farm equipment. These activities are usually referred to as "factor marketing." Another part of agricultural marketing is the movement of commodities to consumers or to first processors who, in turn, sell to consumers. These are the activities most agriculturalists visualize as marketing.

A third group of marketing activities is performed by the processors who convert the commodities into consumer and industrial products. This is similar to manufacturing in other industries and, viewed from the manufacturer's point of view, the marketing functions occur *after* the product has been made.

A fourth area of activity in agricultural marketing is concerned with exports of the commodity in their

natural or processed state. For most developing countries, exports of one or a few agricultural commodities, with little processing, have been, and remain, a principal source of all export earnings.

The focus of this publication, as that of the seminar, is primarily on food marketing within these countries. Selected issues connected with this subject are given special attention.

Section I is concerned with public policies to encourage a more modern and efficient marketing system. John Mellor and Ray Goldberg both deal with the structure of food marketing systems, and, hence, provide a basis for examining policies which would contribute to improved market performance. Such policies may be concerned with: marketing efficiency—the performance of marketing functions with minimum resources; equity in the market place between producers, consumers, and distributors, and, within each group, between large and small, rich and poor participants in the marketing process; quality of products and diets; and contributions to national development—supplying or saving foreign currencies and allocating resources effectively in the agricultural system. Mellor is primarily concerned with policies which shape the marketing system; commentators Syd Harris and James Lemley concern themselves with policies for commodity stabilization.

The papers in Section II deal with the organization of marketing enterprises and the flow of resources into the marketing system. Harold Riley's paper draws on recent experience in the Cauca Valley of Colombia to outline ways in which local institutions were involved in strengthening the marketing systems there. The paper by

Earl Heady and Leo Mayer urges a better balance in the flow of resources between production and distribution functions, and the paper by Norris Pritchard describes the conditions under which a government trading corporation may be the best means to improve grain marketing operations in West Africa.

Section III is concerned with marketing problems associated with improved diets, particularly for those who are unable to purchase all the food they need at commercial prices. The paper by Alan Berg notes that improved nutrition is not a function of increased income alone, but is affected by an enlightened concern for better nutrition on the part of consumers, food processors, and public officials. Comments by Dan Rosenfield and H. C. Frost touch on other aspects of the problem of upgrading diets for the needy. While protein deficiency is emphasized, this is a shorthand way of focusing on the problem of adequate diets for the different socio-economic groups in developing countries; the poor and the young are particularly identified as needing target programs to correct diet deficiencies which are not being corrected through regular commercial channels.

Section IV is a potpourri of views on the need and means for increasing efficiency in marketing operations. Ken Farrell opens the discussion by observing that a concern with marketing efficiency needs to go beyond physical facilities and handling. Grace Finne discusses efficiencies in transporting foods, William Crow comments on terminal markets, and Lyman Henderson explores the problem of losses in grain storage. More efficient performance of marketing functions means lower economic costs, but in developing countries this

need not take the form of less labor. With aggregate marketing services increasing rapidly and unit transactions becoming larger, there are opportunities for more productive labor usage in distribution as well as production.

In the fifth section, experiences in dealing with marketing problems in different regions are discussed. Experiences vary widely; marketing takes different forms among the villages of Sierra Leone than in the city of Cali in Colombia. Still, some similar observations are made: shortcomings in institutional arrangements are as serious an impediment to marketing efficiency as the lack of adequate physical facilities; there is an absence of market orientation and marketing innovation in most places; government policies in the market place are often poorly conceived and the services needed are poorly performed.

In Section VI, experts from USDA, AID, universities, and agribusiness express views on approaches to providing technical assistance and the priorities which should guide the new AID-USDA effort to improve food marketing in low income countries. In a wide-ranging discussion, one view carries a consensus: the need for a more systematic approach to the identification of marketing problems in developing countries. And closely associated with this is the concern to determine costs and benefits of alternative actions aimed at improving the performance of marketing systems.

— Martin Kriesberg,  
Director, Program Development  
and Analysis, Foreign Economic  
Development Service, USDA.





*Section I*

**MARKETING POLICIES—SOME KEY  
CONSIDERATIONS**

**Elements of Food Marketing Policy  
for Low Income Countries**  
*John W. Mellor*

**Commodity Stabilization Policies—  
Some Guidelines**  
*R. M. Sydney Harris*

**Some Further Views on Commodity  
Price Policies**  
*James W. Lemley*

**Marketing Policies—  
The Interaction Between Business and  
Government Managers**  
*Ray A. Goldberg*

*Dr. Mellor is Professor of Agricultural Economics, Cornell University. He has directed research projects in India, Pakistan, Nepal, Thailand, Indonesia, Taiwan, and Chile, and is currently director of an AID-sponsored project on agricultural prices in economic development.*

Low income countries already have extensive food marketing systems. Thus, effective public policy with respect to food marketing must be based upon knowledge of the nature and functioning of the existing systems.

We have inherited a great deal of folklore and misinformation concerning these systems. Fortunately, however, in the last few years there has been a substantial body of research on the structure and functioning of indigenous marketing systems. And the pioneering work done at Cornell by Dr. Uma Lele gave us a set of analytical tools to apply in studying how well markets perform in low income countries.

AID has financed much of the rigorous marketing work which we now have available. This includes the more recent work of Lele and Osman Farruk at Cornell, work on marketing in Latin America conducted by Michigan State University, and marketing research in Africa conducted by Stanford University.

In this statement, I will present a brief set of objectives for a marketing system and give an indication of stereotype positions with respect to the way marketing systems work in low income countries. Continuing, I will develop a comparison between the stereotype position and the factual situation derived from our marketing research. I will close with a statement of food marketing policies which can be effective in helping the marketing system meet its objectives.

The presentation will draw heavily on the research we have been conducting at Cornell with respect to the working of marketing systems. Hence, it will have somewhat of an Asian bias to it. In addition, the presentation will place emphasis on facilitating the operation of the private sector. This emphasis arises because of the negative stereotypes on the part of many observers and because of the tendency for many international agencies to inadvertently work against development and improvement of the private sector.

## OBJECTIVES OF THE MARKETING SYSTEM

Marketing systems, of course, have a wide range and number of objectives. I have singled out, for emphasis, three objectives which I think are particularly important. These are based on the current context of development problems in low income countries and the current role and potentials of the marketing system. The objectives are as follows:

(1) Expand physical capacity of the marketing system commensurate with increased production. As newly developed technologies (including the high yielding grain varieties) sharply increase production, additional quantities of output travel from producer to con-

sumer. This is important to the continuing of production incentives and to obtaining the benefits for development of other sectors of the economy. Most parts of the marketing process provided in the private sector probably have considerable supply elasticity, allowing them to expand rather quickly and with little additional cost to expanded demands.

(2) Increase the efficiency of resource use. Processes of economic development are based upon expanding the quantity of resources available for development and increasing the efficiency with which they are used. Thus, this is a standard requirement placed as an objective on any element of the economy. As will be indicated later, the initial degree of efficiency with which resources are used in marketing channels is already moderately high, as measured by standard economic criteria. However, a number of factors reduce efficiency in resource use by slowing the progress of appropriate technological change.

(3) Facilitate mobilization of resources and use those resources to produce services which are in demand. This is an exceedingly important objective. It is perhaps more important in terms of its implications to total production in a society than in terms of its role in increasing the efficiency of the existing stock of resources. The marketing channels offer many opportunities for mobilizing and utilizing resources for productive purposes which would otherwise not enter into the production process. I will comment specifically on labor, entrepreneurial talent, and capital.

The marketing channels, particularly those including processing, offer substantial opportunities for utilizing large quantities of labor in productive processes. Most traditional systems of processing use substantial quantities of labor relative to capital. There is a tendency in dealing with marketing reform to place too much emphasis on modern processes which use large quantities of capital relative to labor and thereby lose opportunities to mobilize labor for productive purposes. Simultaneously, these processes lose the opportunity for spreading the benefits of growth more widely through increasing employment of lower income people.

Marketing channels already include considerable quantities of entrepreneurial talent. Some marketing programs, particularly those which emphasize large-scale, capital-using processes, have a tendency to replace many small-scale, indigenous entrepreneurs with entrepreneurs in large-scale foreign firms or with formally trained government bureaucrats. In both cases there is a tendency for entrepreneurial talent to be lost.

Small entrepreneurs in marketing systems in low income countries can often tap substantial savings

resources of their own and of members of their extended families. Much of this savings potential would not be realized were it not for high rates of return to the petty entrepreneurs in their own businesses. Thus, if public policy pushes towards large-scale firms or towards public sector operation, these savings potentials are likely to be lost.

It is clear that tapping the labor, entrepreneurial, and capital resources through expansion and development of indigenous marketing systems depends largely on the use of private sector firms. Whether this makes overall economic sense depends on the degree of competitiveness and efficiency with which those firms operate.

### THE STEREOTYPE OF EXISTING MARKETING SYSTEMS IN LOW INCOME COUNTRIES

It is generally believed that indigenous marketing systems, particularly in Asia, are exploitative, collusive, economically inefficient, and operating with high profit margins. There is undoubtedly an element of truth in each aspect of these stereotypes.

It is probably correct that some factors in the marketing system do exploit some small sellers whose small volume of business is relatively costly to handle and relatively unimportant to the marketer. The economic problem involved is probably small because of the minute quantities involved. However, the human and social problem is large and provides an argument for regulatory measures to prevent it.

With respect to collusive behavior, there are undoubtedly substantial efforts by elements of the marketing system to do so in order to increase profit margins. Whether such collusion works or not depends in part on the number of participants in the marketing system and the extent to which markets are integrated.

As to profit margins, even with great competition there will, of course, be some participants in the marketing system who have high profit margins. The question is whether in the competitive system, those earning very high profit margins through superior entrepreneurial talent are balanced by those with more ordinary talents who are making very small margins or even losing.

The question which arises with marketing inefficiencies is whether or not the aspects of marketing systems which are operating inefficiently are inherent in the system. If not, judicious governmental investment in transportation or other aspects of the system can improve the environment for efficient operation and thereby increase the efficiency of operation.

My position is that, in general, the stereotype position regarding the indigenous marketing systems is incorrect

and misleading in its policy implications. There is a close analogy with the stereotypes which were held a few years ago about the production side of agriculture. Not very long ago, it was widely believed that the typical cultivator in a low income country was not very intelligent and operated in a traditional manner which stood in the way of improving technology and increasing the efficiency of production. This view led to an emphasis on changing attitudes and education of cultivators at the expense of programs for input supply and research for generating applicable technological change. Now that we have a clearer view of the actual situation with respect to cultivators, we have more complex, but more relevant, policies for bringing about technological change and increased agricultural production.

The same situation prevails with respect to marketing. Incorrect stereotypes concerning the way marketing channels operate have led to incorrect policies designed to deal with a wrongly diagnosed situation. Now that we have a clearer understanding of where the imperfections and problems in the system lie, we can come up with policies which have a better probability of bringing about genuine improvement in the system.

### THE WORKING OF INDIGENOUS MARKETING SYSTEMS

In this section, I will first comment on the structure of indigenous marketing systems and indicate the extent to which that structure provides an environment favorable to competitive behavior. I will then comment on the performance of the marketing systems with respect to the three marketing functions of providing space, time, and form utilities. These comments on performance will essentially deal with the efficiency of operation in a static technological situation. Following that, I will comment briefly on the question of technological change within marketing systems and the extent to which existing systems operate well in that respect. The evidence will be drawn largely from the work done at Cornell by Uma J. Lele, Osman M. Farruk, and Ray W. Nightingale. The detailed work is reported in the Cornell University USAID Project Research Contract Occasional Papers Nos. 12, 17, 31, and 37.

#### The Structure of Food Marketing Systems

Our studies of food grain marketing systems in Asian countries show that, in general, they have a competitive structure. There are, generally speaking, a substantial number of participants in each market. More importantly, various markets seem to be well integrated with each other. This means that collusive behavior must involve collusion of large numbers of participants across a large number of market areas.

In a few situations, the market structure is oligopolistic with a small number of participants and, hence, there is opportunity for collusive behavior. One of the better examples of this is the case of the large commission agents in Dacca market in East Pakistan where a very small number of agents control the total commission business. However, in these types of situations, the margins charged by the commission agents are set and represent only a very small proportion of the price on the food grain. Because of the large volume involved despite the small number of participants, the profits of these commission agents are quite large. Still, with the small actual margin they charge, they do not represent a major inefficiency in market performance.

### Market Performance

Food grain markets in Asia generally operate quite efficiently by standard economic criteria. Prices in different markets are roughly comparable, indicating that supplies flow freely from low price markets to high price markets, thereby equalizing the prices. Price differentials between markets customarily stay within a band defined by the cost of transportation from one market to another. If prices move outside of such a band, it is usually because of a breakdown or deficiency in the transportation system. We find, for example, somewhat lower correlation of prices in different markets in West Bengal than in most other parts of India, and in East Pakistan than in West Bengal. East Pakistan has somewhat poorer transportation facilities than the parts of West Bengal studied, and the parts of West Bengal studied have somewhat poorer facilities than the other parts of India which were studied.

Similarly, we find a tendency for intermarket price differentials to become larger than normal transport cost during harvest season when the very heavy burden on transportation systems becomes too much to handle and goods cannot be moved quickly in response to normal price differentials. These transportation efficiencies at harvest will continue to be a major problem as long as agricultural commodities make up a major part of the goods transported in a low income country. This alone represents a good reason for placing additional storage facilities in the producing regions rather than the consuming regions.

Averaged over a period of years, seasonal price rises of food grains appear roughly commensurate with the costs of storage. Our studies suggest two contradictions of standard stereotypes. First, we find that average seasonal price rises are not nearly as large as the stereotype position and, second, we find that storage losses under traditional systems are much lower than is generally expected.

The stereotype position of very large seasonal price rises probably derives from the highly erratic nature of seasonal price rises. In some years, the seasonal price rise is considerably greater than storage costs. In other years, however, the seasonal price rise is very little, even in absolute terms, and much less than storage cost. The average is commensurate with storage costs. The stereotype is probably built from the years in which the seasonal rise is much greater than storage costs.

In general, storage losses for food grains run between 4 and 8 percent during the period of storage. Traditional storage under private ownership requires considerable management, care, and labor to hold down storage losses; deteriorating grain is removed, bags are stored so good ventilation takes place, and so on. The observations of very large storage losses probably come from public sector storage under poor management and from observations of inadequate facilities and improper handling practices in many parts of the marketing system.

The highly erratic seasonal patterns arise mainly from lack of knowledge concerning storage stocks. Also of importance is the lack of knowledge concerning crop prospects, particularly when the crop is grown over a very large area.

The highly erratic nature of seasonal price patterns poses a number of economic problems. Most importantly, it represents a major cost to processors who must operate under considerable uncertainty concerning the supplies which are available to them and the cost of those supplies. This discourages major investment in the technological improvement of processing methods, which has particularly strong implications in rice mills.

The erratic seasonal price pattern also contributes to making prices at harvest season fluctuate more from year to year than would otherwise be the case. This creates a number of problems of uncertainty for farmers and probably serves to somewhat reduce use of purchased inputs and to slow technological change.

With respect to processing, rice receives more attention than most other food grains. In general, margins appear to be somewhat higher, relative to cost for rice milling, than for other marketing operations for food grains. This may be due to the large costs of highly unstable seasonal price patterns. This may be further reinforced in a number of countries by government policies which increase uncertainty with respect to supplies. These same problems reduce the rate of technological change in rice milling as well.

### The Rate of Technological Change in Marketing

Although market performance by narrow economic criteria seems to be quite good among the marketing



agencies in most Asian countries, these same agencies perform rather badly in terms of achieving the rapid technological change which increases efficiency and reduces costs. This is most noticeable in rice milling, which is still carried on in a quite antiquated way with slow progress toward incorporating modern rice milling methods. Modern milling methods could reduce costs of operation and increase rates of output.

There are probably three major reasons for the slow pace of technological change. First is the small-scale operation of most food grain processors in low income countries. This is not a disadvantage in itself if the public sector provides those services which are best provided on a large-scale. A well developed public system of research and extension with respect to food processing methods could play a very useful role in increasing the rate of technological change and the efficiency of small-scale marketing firms. Since these firms can marshal considerable entrepreneurial talent, capital, and labor which might otherwise not be used in production processes, it would be very useful for governments to render those services which can make these elements in the marketing system more competitive, more efficient, and more technologically dynamic.

The second reason for the slow pace of technological change is lack of well-defined government policies. In a number of low income countries, government regulation policies add considerable uncertainty for good grain processors as to the availability of supplies and the stability of prices. Lack of well-defined, well-administered policies represents a major disadvantage.

#### PROPOSALS FOR PUBLIC POLICY

The proposals for public policy which are made here are based on the conclusion that existing traditional marketing systems can be made to work efficiently and to become technologically dynamic. It is assumed that improved operation of the private system will provide a well-operating marketing system which marshals substantial quantities of labor, entrepreneurial talent, and capital which would otherwise not be available to the development process.

The role of government is seen, then, as that of facilitating the operation of this sector. This is still a substantial role which requires considerable resources. Policy measures will be discussed under three major headings: first, removing existing governmental restraints on operation of the private marketing sector; second, positive measures for facilitating increased competition; and third, measures for facilitating technological change and increased private investment in the marketing sector.

## Removing Existing Public Restraints on Marketing

There is so much talk about anti-social behavior by the marketing agents and of public control and take-over that much uncertainty is introduced into private marketing business. Consequently, there is considerable reluctance to invest capital in those businesses.

This uncertainty with respect to the future is often increased by the activities of foreign aid agencies when they espouse approaches to marketing which are uneconomical, and which are recognized as such by the private sector. In these circumstances, the foreign aid agencies very often recommend large-scale activities by the public or cooperative sectors which tend to displace the private sector. Such action frequently arises with respect to recommendations of technologies and modes of operation which involve much larger scale operations than are traditional in the private marketing system. Engineering efficiency at the expense of labor, entrepreneurial talent, and other forms of capital very often appears to be the most efficient way of operating by very restrictive criteria when, in fact, it is less efficient.

A number of foreign agencies have in recent years recommended such policies with respect to rice milling. These recommendations increase the apprehensions of the private sector and make it even less likely that they will become technologically dynamic.

One can see the same mode of operation with respect to milk marketing. Highly capital-using technologies often displace a reasonably efficient private sector which is operating on a smaller scale with quite different, but still more efficient, technologies.

In addition, in a number of low income countries, there are restraints placed by the government on availability of credit to private marketing agencies. There are also restrictions on the availability of transportation, storage facilities, and the use of existing transportation and storage facilities. Such regulations, which may appear quite rational on the surface, normally inhibit the private trade from operating in an efficient way. Such rules generally neglect the complexity of shipping patterns and storage requirements and, therefore, lead to more inefficient operation.

## Facilitating Increased Competition

Governments can play a very important role in facilitating entry into marketing businesses and increasing competition. First, governments can encourage marketing to take place in regulated market yards where weights and measures and modes of transactions are regulated. Experience in parts of India with regulated markets indicates that they soon grow very rapidly, displacing small village markets and encouraging cultivators to market at larger market centers. This increases the efficiency of market operation as well as competition which enhances both consumer and producer prices.

Provision of credit to smaller marketing operators can facilitate their expansion and also provide increased competition within the marketing channels.

Major investment in improved transportation can greatly facilitate competition by bringing about fuller market integration and greater competition among a larger number of market functionaries.

Gradual expansion and improvement of market information provided by government agencies can improve the competitive position of farmers and small marketing agencies also. For such market information to be useful, however, it must relate to grades, thereby encouraging a shift to well-defined systems of grades and standards.

## Facilitating Technological Change and Investment

Governments can play an important role in facilitating technological change and investment by the private marketing agencies. First and most important, in recognition of the small-scale of marketing agencies in low income countries, governments should undertake major programs of research and extension of research results to the various marketing intermediaries.

Second, governments can be sure that the equipment and other inputs necessary for technological change are readily available to the private sector, thereby again increasing competition.

Third, governments must recognize that, when marketing intermediaries make major capital investments in technological improvement, it becomes increasingly important that they operate those facilities at a relatively high level of capacity. This means that an assured supply of commodities for processing will be necessary at reasonably known, and stable, prices. Governments can facilitate this by increasing the availability of storage facilities, by operating a modest buffer stock program, and by ensuring that government price policies stabilize prices and not destabilize them.

Fourth, credit programs can facilitate rapid technological change in marketing channels and increase competition.

Thus government's role can be very substantial, even in a system basically dominated by relatively small-scale private firms. A well-chosen government policy towards marketing can facilitate increased competition, increased efficiency of operation, and more rapid technological change. It can do these things with a relatively modest use of the scarce governmental resources, and in a manner which encourages the private sector to make fuller use of labor, entrepreneurial talent, and capital which would not otherwise be available for the development process.

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# COMMODITY STABILIZATION POLICIES— SOME GUIDELINES

*R. M. Sydney Harris*

A price support program, or fixing of prices, is not a panacea for all of the problems involved in agricultural development. Price supports are but one link in a very long chain in the development process. But, under some conditions, they become a very important link.

Existing market conditions must be analyzed and overall sector objectives set before a price support program is instituted. It may be that conditions within the country preclude a good program, or it may be determined that an effective program may be instituted if certain weaknesses are corrected.

The analysis must include the objectives of the stabilization program; the attitudes and conditions existing within the country; the alternative types of programs which might be suitable; the marketing program existing or capable of being instituted; and the level of prices to be established.

## OBJECTIVES OF THE STABILIZATION PROGRAM

What are the objectives of the proposed program in the country? Are they to: increase the overall agricultural production? Shift the pattern of production, thereby increasing the production of one crop and decreasing the production of another? Increase production for export, for domestic use, or both? Increase the farmers' income? Reduce prices to consumers? Accomplish a combination of the above? Or is it to merely create a political image that the government is trying to help the farm sector?

If it is the "political image" objective and there is no intent to have an operating program, I would suggest that further work be dropped on the subject. However, if the objectives are sound, studies can then be extended.

## EXISTING ATTITUDES AND CONDITIONS

Next it is necessary to consider, on a practical basis, existing attitudes and conditions. Is there a strong governmental commitment to price supports? Tacit approval of new programs by officials influential in government policy is not enough; there must be a strong commitment. If these individuals are not really serious in making the program effective and are only giving "lip service," then the program will not succeed.

Will the farmers in the country respond, in terms of production, to changes in price relationship between crops? Likewise, will the farmer increase total production when he is guaranteed a higher gross income or higher return per unit produced? It is a falacy to believe that farmers in developing countries will respond in the same manner as U. S. farmers.

Does the country have, or can it get, the funds necessary to operate an adequate program? The amount

of monetary resources required will depend upon the type of program instituted and the level of prices established.

Are storage, transportation, and marketing institutions adequate for a program which succeeds in substantially increasing production?

Is the country's organizational structure and administrative capability adequate to operate the program?

## TYPE OF PROGRAM

If answers to the above items are favorable, then consideration is given to the type of program to be instituted. The type of program will depend upon the objectives and conditions existing within the country. Support programs of the following types should be considered: non-recourse loans, recourse loans, purchase loans, purchase programs, a combination of loan and purchase programs, and subsidy programs.

Personally, I favor a non-recourse loan type of program whenever possible, but this will not function in all countries. Non-recourse loan programs have a major advantage in that title to the commodity remains with the producer until the maturity date of the loan, thus giving him the advantage of being able to sell at a price above the loan rate if the market price exceeds the loan rate.

For a non-recourse loan program to be effective, however, conditions must exist whereby the program can be fully explained to the farmer and be understood by him. My Brazil experience proved that this communication process was most difficult. Many farmers considered taking of a loan as tantamount to selling the commodity to the government. If this attitude cannot be changed, it would be preferable to have a purchase program. If a loan program could be understood by some farmers and not by others, it might very well be that a combination of a loan program and a purchase program would be most beneficial.

## MARKETING AND ADMINISTRATIVE STRUCTURES

Regardless of the type of a program contemplated, an institution must exist, or be created, which can effectively administer the program. All other conditions being satisfactory, the program will succeed or fail on this one item. In Brazil, the program is handled in the field by the Bank of Brazil. Where the local manager favored the program and administered it well, the program was a success; where the local manager did not favor price supports and did not effectively administer it, the program was a failure.

Except for a subsidy program, the following are necessary if the program is to operate successfully:

1. Adequate storage for the production, at the correct location. Government, commercial, and farm storage should be considered in assessing adequacy.
2. Adequate transportation to move the commodities from the point of production to the point of consumption and to points of storage on the way.
3. For a loan type program, a warehousing system must exist or be created whereby a depositor of a commodity is assured that, when he desires to repay his loan and take delivery, he can receive a like quantity and quality as that which was deposited, or receive the highest market price during the period of storage. It is also most desirable that the storing warehouseman be allowed to merchandise the commodity being stored. This is desirable for rapid and efficient marketing in commercial channels when the market price exceeds the loan value.

#### LEVEL OF PRICES TO BE ESTABLISHED

When and if satisfactory answers have been found to all of the above, it then becomes necessary to consider the level at which minimum prices will be established.

In countries which have unreliable or non-existing data upon which to base sound judgment, it may be necessary to operate on a trial and error basis.

In deciding the level at which minimum prices will be established, several conditions must be considered. What level of production is wanted to achieve what purposes? Prices in the market place in past years and the volumes produced under those prices offer clues on supply—price relationships.

World price of the commodity is an important consideration; very few, if any, of the developing countries can afford to establish a price above the world price if there is a possibility of producing in excess of domestic demand. If the production which is generated should exceed domestic demand, then the excess will have to be exported or held until the domestic market can consume the surplus. Either operation is costly if support prices are above world prices.

The cost of production for each commodity needs to be taken into account by regions and the nation as a whole. The support prices which may be necessary at consumption centers and at production points to provide an equitable system also need to be considered. The failure to establish fair relationships between the support price at consumption centers and points of production will result in serious distortions and disruptions in the marketing system.



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## SOME FURTHER VIEWS ON COMMODITY PRICE POLICIES

*James W. Lemley*

Laws may hinder or help in the improvement of marketing systems. I will talk about one area of legislation, namely a commodity stabilization program. I am thoroughly convinced that a *good, accepted*, government-controlled price stabilization program is *one* necessary marketing tool in agriculturally-oriented development countries to enhance the marketing of basic agricultural commodities. I emphasize the words *good, accepted, and one*.

Those industries affecting large numbers of people who are not organized generally require assistance through governmental programs. A prime example of such a group are those involved in producing and marketing agricultural products, especially basic grains.

The extent to which a government enters into establishing prices should be preceded with sufficient study to determine whether such intervention is advisable and feasible. It is entirely possible that, regardless of conditions among producers and consumers, the prevailing political situation in a country or its economic condition may argue against a commodity price support policy. A good law which is misused or improperly funded becomes inoperative and may add to problems of credibility between the people and their government. It is also the type of failure which may be conveniently passed back to a foreign advisor.

Sometimes it is assumed that a sound stabilization program is possible when, in reality, those in power are unwilling to pay the price necessary to succeed. This price is not money alone but the authorities and responsibilities presently scattered through existing departments and institutions which, by necessity, must be coordinated if success is to be obtained.

A price stabilization program is *one* tool in efforts to improve a marketing system. Hence, the marketing system must be thoroughly understood before changes are introduced; the changes must be based on the prevailing marketing system.

Changes must dovetail with the present system if they are to be accepted by those persons who operate and use the system. Marketing patterns are deeply imbedded in local and national customs, social structures, and attitudes toward government. If a price stabilization program is to be effective, there are certain other component parts in the marketing system which must either be in existence or must be developed. Components of primary importance are:

- Physical facilities within which the program can operate and which will serve the producers, processors, wholesalers, and, in some instances, retailers.
- A useable set of quality standards to permit pricing according to quality so sales can be made without actually viewing the commodity.
- An official quality standards laboratory to make official, third party determinations available.
- An adequate transportation system available for commodity marketings as needed.
- A bonded warehouse law to facilitate operations by the private sector.
- A sufficient supply of the commodity, either being produced or with potential production, to permit the program to be widely operative.

There are certain basic elements of organization for a price stabilization program:

- All related activities should be vested in a single department. Divided responsibilities and lack of coordination can seriously impair the overall effort.
- The department, or institute, should be set up with full autonomy, but with authority of the government.
- There should be permanent funding independent of annual authorization and appropriation processes. There should also be authority to borrow operating funds, and this should include a commitment from the national monetary system for loans in those amounts not available from other sources.





•Provision for a board of directors should be in the authorizing law. This board should include those heads of government departments directly involved in the agricultural economy, and representatives from the government-operated monetary system, such as the central bank and agricultural banks.

Beyond this, there are many requirements which should be provided for, either by law or by definition within the law. One of the first major concerns is deciding which commodities are to be included. Except under rare and special conditions, only basic unprocessed, nonperishable, edible commodities should be considered.

Knowledge of the pre-established producers' price level is also important. Normally, the producers' price should be high enough only to maintain a sound economic position. It should not be looked upon as a means of guaranteeing economic success to the producer. If a somewhat higher price is set to encourage increased production, it should be made clear to all that the level is temporary and subject to change to meet changes in the supply situation.

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## MARKETING POLICIES—THE INTERACTION BETWEEN BUSINESS AND GOVERNMENT MANAGERS

*Ray A. Goldberg*

We are examining the marketing system and its relationship to the food system of a country and, in turn, its relationship to a world food environment. The purpose of a food system is to satisfy consumer food needs efficiently and in a manner responsive to the life styles of these consumers. The system, therefore, must be responsive to the social, political, and economic needs and priorities in the country in which it operates. It must also meet specific governmental and commercial objectives, such as the following:

- (1) help provide a livelihood for all the participants of the system (farm supplier, farmer, processor, assembler, wholesaler, retailer) and the means to help these participants move in and out of the food system as it and the total economy changes;
- (2) maintain reasonable price stability to avoid placing undue burden on the production and inventory functions of the various participants (producing unbearable income fluctuation) while, at the same time, keeping pricing and storage responsive to changing domestic and international market needs, which act as signals for future investment and operational decisions;
- (3) improve the nutritional quality of diets, but remain responsive to consumers' tastes and desires;

- (4) maintain a food system which may progressively reduce imports and expand exports in line with the country's comparative advantage and opportunity costs (such a policy cannot succeed in isolation from international trade, commodity agreements, and the multinational trade of multinational corporations);
- (5) develop a food policy which builds on the existing market structure while it attempts to restructure it to meet changing market, social, political, and economic conditions;
- (6) emphasize policies which place high priority on coordinating devices which hold the system together and help it adjust to change (these devices include markets, futures markets, farm cooperatives, international commodity agreements, contractual integration, vertical integration, trade associations, agencies, and domestic and international programs which are concerned with market news and information, the development of grades and standards, uniform storage agreements, extension work, pure food and drug laws, etc.); and
- (7) formulate programs and policies which enable private and public managers to commit their capital and plan their operations on a long term basis.

Various alternative private and public strategies have been, and will be, set forth in our discussions. In the papers by Harris and Lemley, the importance of providing meaningful price support programs is discussed. In the case of governmental strategy, it is important to note that these programs, to be effective, must be consistent with the real domestic and international market needs. If not, they will only postpone needed adjustments and make such adjustments more painful. From the private manager's point of view, such programs can be valuable in providing one more inventory management tool which permits him to devote more time and investment in the development of new markets, new products, and new marketing techniques.

These two papers also indicate that government policy-makers need the private sector to administer and carry out these government programs. This is true irrespective of the particular form of government in power (e.g., private enterprise or socialistic). In other words, the private and public entrepreneur need each other to carry out their respective operations. This mutuality of interest requires a common understanding of the food system of which they are a part, even though their immediate objectives may differ because of the government's overall priority system versus the individual firm's short term profit objectives.

A similar theme also underlies Mellor's paper. He rightfully points out that the public sector does not make enough use of its own private sector resources and, in many cases, may attempt to look to private enterprises outside of its country before a proper evaluation is made of its own food system. Also, various agencies in the same government must work together to provide a common set of objectives to the private manager.

The businessman, in seeking governmental help and cooperation, must do so from the broader perspective of

how this help will improve the performance of his industry rather than from the narrow perspective of his individual firm. Specific examples of private firm activity helping the total economic development of the food system is evident in all countries. A few examples include Cada Supermarkets with their links to the food economy of Venezuela, the Makati Supermarket in the Philippines, International Mineral's packaged input system in India, the new grading system developed by Cargill and Proctor and Gamble in the Philippines, and the development of a wine cooperative and a branded wine product by Heublein in Portugal through the development of Lancer's Rosé. Similarly, when a government agency develops a long-term program with spelled-out objectives which provide incentives to the private sector on a non-partisan basis, government programs then become more effective. A good example of such an agency is the Board of Investment (B.O.I.) of the Philippines.

We note that food systems are constantly changing and the rate of change is becoming more rapid. We also note that the importance of the food sector to the consumer and to the total economy will continue to call for greater government-business cooperation. The discussions here suggest that a common understanding of each agribusiness commodity system in the developing countries by both private and public managers will lead to specific public and private strategies which make use of this knowledge. They also indicate that both public and private managers will be able to locate more clearly those factors in the food system which will enable more rapid progress to be made. This will help them to be in a better position to take advantage of future trends and to minimize future bottlenecks. Such a systems approach should likewise be helpful to international and national agencies which have to decide priorities when giving a limited amount of aid to unlimited areas of need.





*Section II*

**MARKETING ENTERPRISES AND THE  
FLOW OF RESOURCES INTO MARKETING  
FUNCTIONS**

**Introduction**  
*James Hagler*

**Ways of Building Marketing Enterprises and  
Programs in Less Developed Countries**  
*Harold M. Riley*

**Balancing the Flow of Resources Between  
Production and Marketing**  
*Earl Heady and Leo Mayer*

**Initiating a New Grain Marketing Program  
in West Africa**  
*Norris Pritchard*

**Discussion**

*Mr. Hagler is Executive Director of the International Marketing Institute, responsible for administration and development of research, educational, and operational programs in marketing. This includes conducting worldwide seminars and setting up international export programs.*

## INTRODUCTION

*James Hagler*

I have observed with some concern that the theme of the conference, "marketing," has thus far been discussed from the point of view of the producer. As important as that concern is, a more dynamic definition could be used as a frame of reference.

In other meetings, "selling" and "marketing" are used to mean the same thing, which is contrary to contemporary marketing thought. "Selling" implies the point of view of the salesman or, in this case, the producer, whereas "marketing" is concerned with the point of view of the consumer. A major weakness of "marketing boards" which are generally composed of growers is their producer orientation. The Ceylon Tea Board and the Ghana Cocoa Marketing Board are, or were, producer boards.

Many marketing terms such as advertising, promotion, packaging, market research, and display are not in the vocabulary of the discussions in this seminar. In one sense, such "marketing lags" are now opportunities for improvement. Thus, in one less developed country, a definition of marketing as "getting commodities from producer to consumer" may apply. In another country, "meeting the needs of the consumer" may be added to

the "traditional" producer-oriented definition, and, in a third country, both definitions would be useful.

The need exists, then, for new frames of reference for looking at the marketing of farm products in less developed countries. Perhaps what is needed is an *analytical marketing* look at the "state of the art" in the various less developed countries. If criteria for appraising marketing systems could be established for such countries, then an inventory of agri-marketing research, which at present is in the Department of Agriculture and AID archives, would be useful in providing a mosaic of what has been discovered to date. Such applied research would focus on what needs to be done and would clarify the problems and the sub-problems which emerge from identifying the market segments and their shortcomings.

The International Marketing Institute has been moving in the direction described. And the Institute's applied research efforts have been buttressed by AID's bringing agricultural marketers to its courses held on the campus of the Harvard Business School. In addition to its classroom sessions and seminars, the participants are sent on a six weeks study tour to observe U. S. marketing institutions, methods, and procedures.

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## WAYS TO BUILD VIABLE MARKETING ENTERPRISES AND PROGRAMS IN LESS DEVELOPED COUNTRIES

*Harold M. Riley*

My remarks are directed toward the rather difficult task of instituting desirable changes in food marketing systems within an overall development strategy. I will be drawing upon my experiences with an AID-financed research, advisory, and training program which Michigan State University has carried out in Latin America over the past five years. This program began with a pilot study in Puerto Rico and was followed by larger projects in Northeast Brazil, Bolivia, and Cambodia. Many of my observations will be tied to the most recent program in Colombia, which is currently moving into an implementation phase.

My main objective is to describe a particular approach to the development of marketing improvement programs in less developed countries. This approach involves diagnostic studies which generate an information base and, at the same time, create local professional competence and build political commitment for systematic and sustained efforts to improve marketing.

### SOME ENVIRONMENTAL CONDITIONS

In each of the countries where our project has operated, we have found that the following conditions exist to a greater or lesser extent.

- There is a serious lack of reliable information about the existing marketing system.
- Many public officials and professional workers hold definite opinions about market conditions and many of these views are strongly anti-middlemen.
- Many of the existing rules and regulations reflect this anti-middlemen attitude. Several of these regulations are serving as barriers to more effective use of resources in the food system.

- There is a pronounced tendency for political leaders to support physical facility marketing projects such as central wholesale markets, grain storage facilities, truck terminals, and roads, while giving relatively little support to the development of viable business enterprises and marketing institutions. However, some special attention may be accorded cooperatives.
- At both the regional and national level, there is a lack of understanding of the interrelatedness of rural and urban-based activities and the dynamics of changes in the food system during the development process.
- There are very few professionals with specialized skills in analyzing market coordination problems in the food system.
- The rapid population growth in large urban centers has elevated the political concern about food costs, employment, and social services. Hence, there is a motivation to do something to improve food marketing services and to reduce food costs to consumers, especially those in low income areas. At the same time, farmers and public agencies serving agriculture are seeking marketing improvements which will increase farm incomes.

### AN APPROACH TO MARKET REFORM

Given the above conditions, an effective strategy for instituting changes in marketing systems is to begin with a rather comprehensive diagnostic study of the existing food system in a country or a major geographic region within a country. Such a basic study serves several purposes. First, it provides the information base needed to identify critical market coordination problems. Second, it provides valuable training for local professionals and also generates materials for classroom

teaching in local universities and special seminars with various public agencies and private groups. Third, and most important, it serves as a basis for the formulation of recommendations for action programs which can be tailor-made to fit local conditions. Fourth, it provides an opportunity to develop a program which will be identified as a local effort involving both professional workers and political leaders.

Our AID-supported group went to Colombia in response to inquiries by civic leaders in Cali who were confronted with major decisions on changing the urban food distribution system. In discussions with local agency leaders, the National Planning Department, and the AID Mission, it was determined that a study was needed to deal comprehensively with the food system serving Cali. Although the study was to be carried out in the Cauca Valley Region, where Cali is located, it was anticipated that the problems identified and some of the suggested solutions would have relevance to other regions in the country.

The project, identified as PIMUR (Proyecto Integrado de Mercadeo Urbano-Rural), was jointly financed by the Colombian Government and AID. The Colombian funds were administered by the CVC, a regional development agency in the Cauca Valley. Michigan State University provided the technical direction for the study. The CVC and Michigan State were contractually linked with the National Planning Department.

The research phase of the project was carried out over a period of one year, although the review of draft reports and final revisions has taken an additional six to eight months for a small staff group. The project was organized around 16 technical studies, which provided the supporting documents for a final summary report. The technical reports were published under the authorship of the Colombian staff members.

The overall plan included a series of studies of the urban food distribution system in Cali, the vertical production-distribution systems for the major food commodities consumed in Cali (grains, fruits and vegetables, milk, meat, poultry, and eggs), special studies of the agricultural input supply system, transportation, packaging information systems, and laws and regulations. Consumer goods manufacture and distribution and residential construction were also examined because of their relevance to the adjustments which would occur as a result of major changes in the food system.

The field work included a large number of structured interviews with systematic samples of market participants—consumers, retailers, wholesalers, assemblers,

farmers, and industrialists. These diagnostic studies were essentially a search for unexploited economic opportunities. The objective was to identify conditions which limit output expansion and create unnecessary costs. The approach was pragmatic. It was not an attempt to identify an ideal system but, rather, to specify actions which would lead to improved performance in the food system, recognizing that multiple, conflicting goals were being sought. A modified market structure framework was used as a methodological guide to problem identification and policy prescription.

## FORMULATING MARKET REFORMS

The underlying objectives of the PIMUR project were to specify marketing improvements which would reduce food prices to consumers and/or improve marketing services while, at the same time, stimulating farm production through more certain markets and remunerative prices to producers.

The recommendations which we formulated were directed to these objectives. Although the recommendations are consistent with an overall development strategy, our report does not constitute a regional development plan. Where feasible, we have tried to indicate the costs for investments and related technical assistance and to specify some of the major benefits. We also specified which Colombian agencies should carry out the recommendations. This was done after consultation with Colombian officials.

The final research report and recommendations were submitted to Colombian agencies in preliminary form for review and comment. The reactions of the Colombians were taken into account in revising the report for final publication. The writing and revising of the report were carried out within the country and all reports were published in the local language. We believe these procedures had a favorable effect on the quality of the reports and greatly enhanced acceptance of their contents by Colombians.

## IMPLEMENTING MARKET REFORMS

Most public officials, and even professional workers, do not read and carefully study lengthy research reports, although these are the visible evidence of project output and are often required. Therefore, we attempted to develop and maintain liaison with political leaders and officials in Colombian agencies. Much of this was done through personal visits and participation in a number of seminars. Several of the seminars and discussions were

with private sector groups, especially farmer organizations and industrial groups.

The Colombian agencies are now taking action to implement various market improvement programs. In Cali, a corporation has been formed and substantial amounts of local capital have been subscribed toward the construction of a central wholesale market.

At the national level, efforts are being made to establish an effective market information service. Preliminary steps have been taken within the Ministry of Agriculture to specify a marketing development program which will provide credit and technical assistance to the private sector. The mayor and city council in Bogota have recently established a corporation to plan and build a new wholesale food market and have requested technical assistance.

There now appears to be strong political support for an expanded effort to improve food marketing. Although the PIMUR project has not been entirely responsible, it has undoubtedly had some influence on this growing interest in marketing.

We now believe that, insofar as possible, the responsibility for expanded marketing efforts should be managed and promoted by Colombian personnel. Foreign advisors can play an important supporting role, however. For example, specialists in wholesale market operations, food retailing, packaging, grading, and market information systems can be effectively used within an overall market development effort. There is also a need for a continuing program of applied research to carry out detailed feasibility studies on projects judged to be viable on the basis of the more general diagnostic study. Also, the implementation activity should be viewed as a continuing effort to plan, initiate action, and assess the results. This requires a continuing analytical effort to support decision making and to deal with unexpected problems which are sure to arise.

The Colombians who received on-the-job training in the PIMUR project have been in strong demand. Many took jobs in the private sector at the end of the research phase of the project. Others are working with public agencies.

It is now urgent that additional Colombians be trained to participate effectively in marketing programs. Much of this training can be acquired by supervised participation in ongoing projects. Also, with the increased availability of teaching materials, we anticipate that the universities will strengthen their offerings in marketing.

A few of the most competent Colombian technicians are now obtaining scholarships for U. S. graduate study. Plans are now being formulated to set up specialized short-course training in Colombia for potential managers of the wholesale markets. This latter training short-course will probably involve a supervised travel program to visit and study some of the newer wholesale market operations in Latin America.

## CONCLUDING OBSERVATIONS

The approach to building viable marketing enterprises and programs which I have described, using Colombia as an example, seems to be consistent with the needs, capabilities, and aspirations of this particular country. However, I believe the basic principles of technical assistance embodied in this approach can be utilized on a much wider scale.

Essentially, we recognize that the improvement of food production-distribution systems is a long-term process which should be undergirded by sound research and training programs. Most of this research and training can best be done within the less developed countries. Our role as foreign advisors and technicians should be to support and nurture these activities.

Currently, we at Michigan State plan to provide some continuing support to the Colombian agencies, probably financed out of a sector loan. We are also giving some assistance to a Latin American marketing training center which has been established by the Organization of American States. This program has its headquarters in Brazil but operates throughout Latin America. This week, one of our staff members is helping the OAS group conduct a seminar program in Barranquilla, Colombia, for a local group of businessmen and public agency representatives. Other seminars such as this are being planned.

The approach to building viable marketing programs which I have described can be adapted to the type of assistance which could be provided by an AID-USDA contract arrangement.

I would hope that effective communication and cooperation between the USDA and the university groups can be fostered as the AID-PASA (Participating Agency Service Agreement-AID contract work by other U. S. Government agencies) program goes forward. Both resources are needed, as well as programs of private international businesses.

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## BALANCING THE FLOW OF RESOURCES BETWEEN PRODUCTION AND MARKETING

*Earl Heady and Leo Mayer*

During the past two decades, the development of agriculture was distorted in one direction: namely, emphasis on production to the exclusion of sufficient emphasis on marketing. The same mistake could be made in the next decade, but in a reverse direction, as the "second generation" of developmental problems are brought to the fore: namely, an extreme emphasis on marketing without sufficient emphasis on production. Economic and social goals of societies are not achieved by independent "single sector" approaches considered or analyzed apart from each other. To attain goals for either the producer or marketing sector, the two sets of problems should be considered and tackled together.

If four-fifths of agriculture's production is subsistence and a fifth is market-oriented, a 20 percent increase in productivity, other things equal, will double the amount to be handled through market facilities. If storage, handling, and transportation facilities are inadequate for the increment in market volume, the result is greatly depressed seasonal commodity prices which dampen the incentive to produce.

As another example, we can mention new high-yielding crops for localities and countries. Some exist

which have great potentials in food supply. However, if consumer preference places a low value on these commodities, the product is penalized in the market and the potentials in production possibilities are lost. It is possible, and even likely, that effort at developing new rice varieties, such as IR-8, or corn and soybean varieties for much of the temperate climate should have been simultaneously accompanied by effort on food processing. Perhaps there should have even been a bit of "Madison Avenue investment" in changing preference from one variety of rice to another, or from rice to other cereals.

But the mistake could be just as much in the other direction: namely, to invest large effort and funds in marketing research and facilities without relating it properly to production or, even more ultimately, to the broader goals of societies.

So we have to ask the question: improved marketing for what? In other words, what are the objectives of an effective marketing system and what marketing research is needed to gain knowledge and understanding on how marketing systems can be guided to those objectives.

Most developing countries have very limited resources. The problem is to allocate scarce capital among the opportunities, both (a) within the market sector and (b) between the market sector and the production sector. For example, will "X" amount of capital bring more food and greater stability in supply for consumers if allocated to an irrigation project or if invested in storage facilities which reduce rat and insect damage by "Y" percent?

Many of our discussions have supposed the answers were already known, and that all investment alternatives are high and constant-linear functions with steep slopes. For example, we have had such "black and white" statements as: the marketing functions *must* be turned over to the private sector. The government *must* build storage, marketing, and transport facilities. We *must* provide facilities which reduce marketing losses, etc. etc.

But it is very doubtful that each of these contrasting alternatives have such high and obvious priorities over each other. We need to step back and ask: what are the objectives? Some which can be cited are:

- To attain larger supplies and lower real prices for consumers.
- To be able to export more and substitute local production for imports, thus reducing problems of balance of payments.
- To get a larger share of the consumers' food outlay back to the farmer.

What priority do we give to these and other potential objectives of improved marketing systems? In other words, what weight do we give to each of these in a "marketing objective function?" Some of our discussion makes it sound, or clearly suggests, that one objective should be given a weight of unity and others a weight of zero. Because of these inconsistencies, we suggest that more study should be directed towards marketing systems in less developed countries.

We pose the proposition that there are numerous alternative means for attaining each of the potential objectives of improved marketing. These alternative means have varying rates of substitution, or trade-offs, and one does not clearly "stand out" above the other as our discussions here have sometimes implied.

To have a proper development of both market and food production sectors, it is necessary that they be planned and analyzed together. For example, in an analytic sense, we can imagine a set of models which projects consumer demand and producer supply and

then interrelates the two through the market sector, perhaps in a programming model. This model would specify the magnitude of needed storage, handling, processing, and transportation facilities, and the location of each. It also could specify the optimal magnitude and location of buffer or storage stocks. Extended further, it would specify the inputs required for agriculture and the marketing facilities and systems best adapted to them.

Generation of this type of knowledge, we believe, is most conducive to activating all of the important economic, political, and social forces to "accomplishing the objectives."

In fact, the appropriate set of (a) projections and (b) analyzed linkages can best indicate where emphasis might be best given to investments and actions by the private and public sectors. We think the inhibitions to improvement typically are those which stem from uncertainty and lack of knowledge.

Once the objectives of improved marketing systems can be better specified, appropriate weights applied to them, and projections made of future production and market facility needs, numerous policies may be formulated to overcome political, social, and economic restraints.

For example, to bring the private sector into a greater sharing of investment in marketing facilities such as storage, better information on potential supplies of commodities is needed. In India, we are in the process of analyzing the need, size, and types of buffer stocks to cover expected variation in production due to weather. Simultaneously, we need better information on the drought resistance of the new varieties. Again, this points up that analysis of marketing and production prospects need to proceed together.

Finally, marketing improvements are no panacea to solve all problems. Likewise, production and marketing are not the total answers to the problems of developing countries. The growth of population still raises the Malthusian spectre in some areas of the world. At some point, we need to ask ourselves, improved nutrition for what?

Perhaps, we will spend the 1980 decade as concerned with population expansion as we were in the 1960's with production and as we are starting the 1970's with marketing. All evidence on South Asia suggests that neither marketing nor production are sufficient to raise the lot of mankind in the near future. Planning for the long run will require an effort on all three fronts if conditions are to improve.

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## INITIATING A NEW GRAIN MARKETING PROGRAM IN WEST AFRICA

*Norris Pritchard*

In much of West Africa, food production is rising less rapidly than population. Food shortages in recent years have become more frequent and severe. Emergency food imports supplied mainly by the United States may now be the rule rather than the exception in some countries.

Confronted with these unfavorable conditions, AID sponsored a team to examine the causes of the problem and to recommend practical solutions. The team submitted its report, "Food Grain Production and Marketing in West Africa," to USAID on January 30, 1970. It covers Senegal, Mali, Upper Volta, and Niger.

All four countries are extremely poor. Per capita Gross National Product in three of them is about \$50. From 80 to 96 percent of the people live on farms. Illiteracy is widespread. There are only a few professional, technical, and managerial workers. Natural resources other than agricultural land are severely limited. All four countries obtained their political independence from France in 1960. Since then, economic growth, because of slow growth in agriculture, has not kept pace with the high population growth of 2.0 to 2.5 percent a year.

Millet, sorghum, and corn form the basic diet of the population and are the principal crops. Peanuts and cotton, produced for export, are the chief sources of foreign exchange. In all four, crop production is subject to wide annual and geographic fluctuations because of erratic patterns of rainfall. Abundant harvests are obtained about once every four years and poor harvests are about equally frequent.

Although the human and land resources are available to produce enough of the basic food grains for growing populations, food production has not kept pace with population growth. In contrast, the population and marketing of peanuts and cotton have increased substantially in the past decade.

### CAUSES OF THE PROBLEM

The roots of this food shortage problem lie in government policies and programs dating from the colonial period and largely continued since then. For peanuts and cotton, dependable markets were established and attractive prices were fixed. They were made effective to farmers through government-managed stabilization schemes. Research, extension, and credit services were made available to producers of export crops. But, with the exception of Mali, no comparable programs were developed for food grains. Governments apparently operated on the assumption that farmers will produce enough food for themselves and urban consumers without the economic incentives deemed essential for export crops.

In three of the four countries, marketing of food grains is left to small traders. They lack the physical and financial resources to buy and store more than small and totally inadequate volumes of grain or to move large volumes of grain from surplus to deficit areas. One result is wide fluctuations in grain prices, from about 8 francs CFA per kilogram at harvest time to 40 francs and more some months later. Another result is that grain prices to farmers are low in relation to prices received by farmers for peanuts and cotton in government organized markets. A third result is increasingly frequent and severe food grain shortages.

The responses of West African farmers to low prices and lack of dependable markets for food grains, contrasted with attractive prices in organized markets for the export crops, have been completely logical. Food grain production per capita has declined, while outputs of peanuts and cotton have increased. West African farmers are illiterate, but they are neither stupid nor

irrational. They are fully capable of determining how many francs they receive from a hectare of peanuts and the few francs they receive from a hectare of millet.

The study team also found that these West African countries have large expanses of cultivatable land in fallow. The quality of this land is not high, but far more of it lies fallow each year than is necessary on soil fertility grounds. The reason is that certain key economic factors are missing. The most important of these missing factors are reasonable prices to producers and assured markets for food grains comparable to the price and marketing conditions prevailing for the export crops.

## RECOMMENDATIONS

The primary solution to the problem in three of the four countries is construction, from almost base zero, of a national food grain marketing system. This system must be as simple and as unsophisticated as one can make it. The heart of the system, the team recommended, is a government-owned, national grain marketing corporation. It would:

- establish and operate grain assembly and distribution facilities;
- establish and manage regulatory stocks of grain;
- establish and maintain, through its buying and selling operations, the producer and consumer prices fixed by national policy;
- transport grain from surplus to deficit areas;
- reduce seasonal and other variations in prices to the minimums consistent with costs of marketing, storage, and so on;
- handle trade in food grains with other countries; and
- integrate the private grain trade into a national food grain marketing system.

In Mali, which now has a corporation which carries out the above functions, the primary problem is to increase the corporation's efficiency. With lower marketing costs, the corporation could increase producer prices and thereby induce essential increases in production.

The study team believes that such a corporation can operate at a cost of 6 to 8 francs per kilogram. Thus, producer prices can be raised from 8 francs to the more attractive level of 12 francs while, at the same time,

keeping consumer prices below 20 francs, compared with the 40 francs now common much of the year. Moreover, the marketing corporation probably would not need to handle more than a small fraction of the total output of grain—under 10 percent, or around 50,000 tons—to have the economic "muscle" necessary to achieve its basic objectives of inducing greater production and marketing at reasonable and stable prices. Private traders can be expected to handle as much, or even more, grain in this system, and to shift their emphasis from speculation to providing needed marketing services.

The recommendations offered by the study team are feasible. They require from the United States, or some other developed country, (1) small sums of money to help the countries construct essential marketing facilities; (2) some technical assistance, especially in business management, grain marketing, grain storage, and transportation; and (3) some initial stocks of grain for the regulatory or stabilization operations. The countries themselves can supply the major share of the manpower and material inputs and, more importantly, with some technical assistance in training local personnel, can keep the program in operation.

Finally, the study team is fully aware of the need in these countries for improved research, extension, and credit services and their extension to food grain producers. But these important production increasing techniques, as experience has shown in West Africa, are most effective when farmers first can obtain reasonable prices in real markets. In the long run in these countries, an integrated development program involving adequate prices, good markets, agricultural extension, and farm credit services offers the potential of enormous increases in land under cultivation, in yields per hectare and per worker, in total food production, in farm income, in economic growth, and in human welfare.

## DISCUSSION

*Reuter:* To what degree did you, Mr. Riley, feel that your experiences in Cali were typical of other countries? And, to what degree was the Cauca Valley Corporation

(regional development agency in Colombia) an essential part of the ability to get action there?

*Riley:* No community, I suppose, is typical. This is one of the reasons why studies have to be made in particular situations and the recommendations based on the problems found in that area. Cali exhibits many characteristics of the fast-growing urban centers in Latin America. The rate of population growth in the city is about 7 percent per year. Many of the problems of employment, low income, and lack of public facilities are problems which come with growth.

It does set in an agricultural area that has tremendous potential to the extent that effective demand is created. There is no problem, I think, in keeping up production for quite some time in the future. In this sense, it may be different than some other parts of the world. In Latin America, I think the land could still be developed if the demand were there to consume the food.

The Cauca Valley Corporation is a special institution. It was patterned after the U. S. Tennessee Valley Authority. Its operations have been primarily in the development of public power, electricity, with some limited activities in agriculture with respect to extension or trying to develop commercial agriculture with some attention to small farmers. The CVC is a potentially strong institutional base which could expand in some of the areas of distribution related to agriculture. They are contemplating doing this. The extent to which such organizations can be created in other countries would have to be studied and tested.

It's possible that, within Colombia, there are other regional institutions similar to the CVC which have, I think, some of the same potential. So, at least within that country, Cali is not entirely unique in having the CVC as a local institution. I would argue that Cali is not typical of all Latin America, by any means, but it has some of the same characteristics in terms of the rural-urban relationships. The solutions to problems probably are a little different because of the way the social and political climate has developed in the existing institutions.

*Reuter:* Is there a difference between having the consumer concern as the reason for the action and having

the producer concern? CVC people would basically represent the producing areas, whereas people in Bogota would have no interest in the crop; they are only interested in satisfying the food needs of the urban dwellers.

*Riley:* I wouldn't identify the CVC interest as primarily that of the producer interest. I think that they have an interest in agriculture and producers, but not exclusively, because they also serve the urban centers. Urban centers are the biggest customers for their electricity.

The consumers' interest was also involved in trying to get this project established. The support of the agricultural producer organization was expressed early, so there were several clientele groups which were agreed that something should be done to improve the marketing system. So there was both a consumer orientation and a producer orientation. We did look at the production-distribution systems broadly and I think the kinds of recommendations which came from the study were an attempt to identify bottlenecks and barriers at various stages in the system. If remedied by some of the recommendations with which we came up, they could improve conditions for consumers as well as make a contribution to the producers' welfare.

Now how do you balance these two? I don't know of any precise way of doing it. The market itself, when the rules and regulations are changed to affect how credit and technical assistance are channeled, tilts the system a little bit one way or another. But the political leaders have the problem of maintaining some sort of an acceptable balance.

*Jones:* Mr. Pritchard talked about the attempt to set up a national trading corporation in West Africa. I think this is characteristic of many of the African countries and a number of other countries in the world. There is a need to build national marketing capacities to operate over the whole country rather than operating in a regionally restricted, imperfect way. It is related to the information system—the ease with which wholesalers can trade in a wide variety of markets and respond to opportunities when they arise, moving commodities from areas of surplus to areas of deficit. I think this identifies an area of investigation which could benefit

from some rather pointed study to search for alternative devices for achieving this national market integration.

The tendency right now in many countries is to set up immediately a state trading corporation or marketing board. The record of these corporations is so very disappointing and discouraging that it seems to me that marketing specialists should devote very special and major attention to looking for alternatives. I think that the kind of system which Mr. Pritchard talked about sounds like an alternative.

*Hagler:* Did you mean that results were disappointing because just another bureaucratic institution was established? Do you get the same type of bureaucracy from a state trading monopoly or a national trading corporation as you would get from governments?

*Jones:* Or from private industry monopoly. I am not unhappy about it just because it is a bureaucracy, because I think that our great private corporations are also bureaucratic. Well-functioning bureaucracies operating under private control may or may not succeed. This is not a pessimistic view; it is a view simply based on watching the operation of many of these organizations. In centralized planning and centralized control, it is extremely difficult when you have almost no information about what it is that you are trying to plan or trying to control.

It may be that we are now moving into a period when it may be possible to have effective, efficient, centralized planning in very small countries where the information system is excellent and the control system is developed. But the kind of countries we are talking about here, and this includes Colombia, is a well developed LDC compared to Mali and Upper Volta, which are very underdeveloped LDCs. The situation is still similar in that the

information is very poor about supplies, prospects, and requirements. And the capacity of a central organization to respond, even when it does get information, is very weak. If you can trust this problem to a relatively freely operating market with thousands of decision makers, each handling a small part of it, they may somehow operate together with reasonable efficiency. Small traders operate despite a deficiency in knowledge and managerial capacity. Shortcomings in knowledge and management capability are more critical in larger scale operations.

*Pritchard:* This is precisely the problem we are facing in these countries where there are no such things as capitalistic traders. How can you mold these thousands of little people into a going marketing system which actually functions instead of leaving people in some parts of the country starving while other people have more than enough simply because you can't get the grain moved from one part of the country to another? You then have a choice of setting up a private monopoly or a government one and, in this case, I think the conditions favor the government one. Furthermore, a great deal of technical assistance is needed even to do that because, by the time you get below the level of the Minister of Finance or the Minister of Agriculture, there are few trained civil servants in many of these cases.

*Summers:* In the countries in which I have worked, we have often tried to set up a marketing division within the government, this marketing division to serve as an advisory group, as a planning group, and as a liaison group between government and private business. They have no money to finance anything except some traveling to provide advice and technical aid. In this way, we have been able to improve marketing systems.

In the Philippines, we have two distinct developments: one is the government agency which is spending a huge

amount of money for a central market, and the other is private industry and the rice program. All of the warehousing, stores, etc., are being constructed by private funds. The Great Manila Food Marketing complex cost about \$43 million. I am not sure, but I believe they are buying and selling everything which is produced in the Philippines.

I am quite strongly in favor of private industry, but I insist on liaison between the government and the industry so that they do get involved in a partnership effort. There are occasions, I am sure, where the government is justified in making some expenditures, but I like to see them associate themselves with practical management because I do not find government management to be satisfactory.

*Slater:* The orientation which Mr. Jones suggests is one which has been achieved in this society by Sears, Roebuck and Co. and A & P. Other more recent institutions have emerged on a smaller scale. We have seen some of these in less developed communities in Latin America. Riley did not have precisely the same experiences in Cali as we shared in some of the areas in Brazil and Bolivia, but I think there is an answer in the private sector—and it starts with a consumer orientation. A distribution organization which "busts" prevailing price levels upsets the market, and does so deliberately. It seems to me that these change-agents in a distribution system are the kind of "nasty" influences which I believe are needed to bring reforms about.

*Ward:* In most of the Middle East countries, marketing involves more than one ministry. And this has been a real drawback to people trying to do something there. Take Turkey for example: marketing activities are the concern of the Ministry of Commerce, the Ministry of Agriculture, the Ministry of Village Affairs, the Ministry of Finance, and the Ministry of Customs—inside and outside the country. When our people go there and get tied to one particular project in a Ministry, they are

hindered by the lack of coordination. In Turkey, we have had some success in bringing various government bodies together and gradually trying to funnel the marketing activities back into two agencies—the Ministry of Agriculture and the Ministry of Commerce.

*Pritchard:* In regard to Mr. Slater's point about cutting prices in the marketing system, I agree that consumer prices should be held down; this is the real solution in the long run to economic improvement in LDCs. But this is not now always the case. There must be incentives for farmers to produce. One of the problems in West Africa has been too much emphasis on the consumer angle to the point where they held down prices too much and farmers refused to produce more. And I think farmers were justified in doing what they did. You have the economic incentive and then a marketing system to translate those agricultural policies into real prices to producers.

*Schertz:* Has the project in Cali been effective in stimulating policy changes by the Colombian Government?

*Riley:* I think the project has begun to have some effect upon the kinds of policies which are being considered on marketing within the Ministry of Agriculture at the national level. There is a marketing-oriented branch to the Ministry; the director was on the advisory council for our project. We had staff members out of that section working with our project, so I think, through individuals involved in the project in various roles, there are some effects beginning to take place on national policy.

Now our project was not directed specifically towards analysis of national price policy. That was not one of our prime objectives because much attention had already been given to that by other groups. We really focused more on internal market development and some of the other aspects, other than price policy per se.





*Section III*

**NUTRITION AND MARKETING FOOD  
FOR THE NEEDY**

**Increased Income and Improved Nutrition:  
A Shibboleth Examined**  
*Alan Berg*

**Fortification: Another Alternative for  
Improving Nutrition**  
*Daniel Rosenfield*

**The Role of Private Enterprise in Marketing  
Foods to Lower Income Consumers in  
Developing Countries**  
*H. C. Frost*

**Discussion**

*Mr. Berg has been Chief of Food and Nutrition in the AID Mission to India and Deputy Director of Food for Peace. Currently, he is conducting a study on "Nutrition and Public Policy" as a Senior Fellow of the Brookings Institution.*

## INCREASED INCOME AND IMPROVED NUTRITION: A SHIBBOLETH EXAMINED

*Alan Berg*

"How do you provide better diets to children in poor societies?" In the development business, there is a simple, conventional answer. More income. With economic growth and related increased incomes, nutrition problems, we are told, will solve themselves.

The theory that growth in per capita income leads to better nutrition rests upon all of the following assumptions:

- An increase in average per capita income of a country leads to an increase in the per capita income of the poor.
- An increase in the per capita income of the poor leads to an increase in the amount they spend on food.
- An increase in the amount spent on food by the poor leads to an improvement in nutrition.
- An improvement in nutrition by a poor family means an improvement in nutrition for the preschool aged members of the family.

This paper suggests each of these assumptions is open to question.

Money does affect diet, and presumably it usually affects it for the better. Enough exceptions have been noted, however, to suggest this improvement is not automatic. Further, for planning purposes, knowledge of the degree of income/dietary improvement is only useful when viewed in the context of base incomes and base diets. In this light, there is cause for concern over the theory that aggregate income growth is the answer to malnutrition.

This paper will begin by examining the above assumptions, which sometimes are used to justify limited concern and involvement in nutrition-oriented policies and activities. It will then attempt a conceptual approach to determine a viable nutrition strategy in a country, and follow with a brief discussion of operational philosophy during the period this determination is

underway. Also considered will be those factors which, in a practical sense, most influence what may emerge as a nutrition program.

Most of the following observations are from India, and it is recognized that what is true for India may not be true elsewhere. It is also possible that, within India, the examples presented are exceptions to the rule. I was, however, frequently confronted with diet situations which seemed to defy the accepted income/diet laws and, in examining the reasons for this, some unusual and unexpected information emerged.

### INCOME TOO LOW

Perhaps an appropriate starting point in analyzing the validity of the theory that increased income will suffice is to view it within the context of a specific society. Given the trends indicated by the "income elasticity of demand" tables, what are the realistic prospects of the poor of a country reaching sufficient income to insure reasonable nutrition? A composite examination of 220 Indian diet surveys, coupled with national economic projections, suggests that unless a new nutrition strategy is adopted and implemented, at least a generation will pass before many Indians can afford an adequate diet.

The data suggest that per capita disposable income must reach from \$4 to \$5 a month to achieve an acceptable diet. Between 60 to 70 percent of India's urban dwellers fall below this line, and the percentage is higher in the rural population. One-third of India's families would need at least twice their current incomes to attain adequate diets on the basis of rising earnings alone. Even assuming a 3 percent annual per capita real income rise, it would take thirty years for one-third of India's families to reach the required level. Given population growth trends, this means a 5.5 percent annual national growth rate—compared to a 3.5 percent growth trend over the last 13 years.

These calculations ignore unequal distribution at various income levels, and it should be noted that incomes may not be moving upward for large numbers of those most in need of help. There is increasing recognition that the fruits of development, for example of the agricultural revolution in India, may not be adequately reaching some poorer groups of the society.

There is the further matter of mal-distribution within families. If, as we suspect, the deficiencies of preschoolers are proportionately greater than in other family members, double or even triple the income might be required to eliminate most of the deficiencies. Even then vitamin A and perhaps iron deficiencies would remain. If the average per capita income of 162 million people will not reach the minimum level until the year 2000, it could be twenty years beyond that before the average would be high enough to meet the average preschool child's nutritional requirements. And that will still be average.

#### IMPROVED DIETS NOT AUTOMATIC

A second point is that, even for those now or soon to be realizing an increased income, it should not be assumed more money will automatically lead to a better diet. The traditionally accepted principle that better diet is a function of increased income undoubtedly applies in certain societies and at certain income levels. However, it has been my observation that, in some situations, there actually may be an inverse correlation between income and nutrition when income increases are modest and start from a low base.

To many poor—and poorly nourished—an increase in wealth brings with it access to the monetized part of the economy, and such items as ballpoint pens and transistor radios compete, for the first time, with what had been a fixed food income. In Mysore, cash received from home grown vegetables and milk from the family cow was spent on clothes and the cinema. In villages near Delhi, income earned by low caste families from the sale of eggs was used to buy non-food prestige items. In Kerala, 90 percent of the village milk was sold in the towns where only 14 percent of the population lived. In some West Bengal villages, milk is curdled and sent to Calcutta where it is used in the preparation of popular Bengali sweets. The villagers were compensated monetarily but not nutritionally.

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Even when expenditures for food are increased, more income does not always lead to improved diet. Many rightly point to the substantial increases in milk purchases which come with higher incomes. But, when looking beyond, we also see that related to increased income is a dramatic decline in breast feeding. Sixty percent of lower income Gujarati women (under \$2 per capita income per month) continue to breast feed their children beyond six months. This figure drops sharply as incomes rise. Only 8 percent of higher income mothers (above \$9) offer the breast at the same period. The nursing Indian mother produces approximately one-half litre of milk a day. A comparable quantity of commercial animal milk would cost more than \$2 a month, a substantial portion of income. Our calculations suggest that a mother moving up the medium income ladder purchases only one-third as much milk (and most of this used in tea) as is lost due to early weaning.

#### ASTHETICS AND PRESTIGE FACTORS IMPORTANT

People spending more for food may eat more, but not necessarily better. The common example in India is the shift with the first increment of income from sorghum or millet to rice—and from home-pounded rice to polished rice; the latter is aesthetically more pleasing but nutritionally less valuable. Similar situations can be observed when increased income makes it possible to "buy up" from unrefined sugar (jaggery) to the less beneficial refined sugar. A recent survey in Western India confirms that a statistically significant drop in protein intake is possible as incomes rise and cereal diets are "upgraded."

Reports from other parts of the world also note that the level of aesthetic pleasure and the level of social prestige are more important in changing food habits than the level of vitamin A or the level of methionine. White corn replaces the more nutritious yellow. White bread replaces *tortillas*. Coffee is taken instead of the *atole*; tea instead of buttermilk. India's Joint Secretary of Food mentioned recently how the common Indian field worker no longer took his curd and chapatti into the field; now it's tea and biscuits. One study noted that meat and fruit are being "pushed out of the diet" while, at the same time, there is an increase in the consumption

of manufactured foods—especially sugar containing foods. The deleterious effect in urban slums of the Coca-Cola tragedy is legend. Often, with increased income, certain items are discarded from the diet since they are identified as “foods of the poor.” *Quinua*, for example, is an excellent cereal of the Bolivian altiplano. But is associated with low social status, and Bolivians invariably choose a more costly but less nutritious substitute whenever they can afford it.

In much of India, greens and papaya are regarded with disdain because they are plentiful and inexpensive. In Madras, *puttu*, a form of steamed pudding with coconut, is never served in Brahmin restaurants because it is associated with lower class diets.

In East Pakistan, a gentleman does not eat red rice and rich people do not eat pulse (legume) leaves. In some countries dark bread is still regarded as a poor man's food. Also worth noting is that low-ranked, meat-consuming Indian castes, as they begin to rise in income, sometimes imitate the vegetarian orthodox way of life of higher castes.

Increases in income apparently do not always affect the composition of the diet. It has been generally accepted that a rise in income leads to an increase in relative expenditure for higher-cost foods and a decline in the consumption of less expensive commodities, especially cereals. But a study in Ghana reports the proportion of the expenditure given to various food groups was not affected by increased income.

#### INCREASED INCOME MAY MEAN SACRIFICES IN QUALITY OF DIETS

Another question we must ask ourselves is “What was the basis of the increased income?” In many instances, it is a reflection of the flow from farms and small towns to the large cities. These migrants have more money than the rural poor, but they also need more for rent, clothing, and other necessities of city life, including food which costs more in the big city. Also, the foods are selected on the basis of relative cost, imitation, prestige, convenience, and availability—all precarious guides of nutritional validity. Often the resulting diets are not of the same quality once known.

It was found that Congolese who abandoned village life for Brazzaville made more money and spent more for their traditional cassava flour. But it was also found they developed pellagra because they could not buy the familiar niacin-rich cassava leaves in town. For the same

kind of reason, beri-beri was found in former rice-eating Senegalese villagers who migrated to Dakar.

Another common basis for increased income in developing countries is the shift from a subsistence crop to a cash crop. A peasant may earn more by growing cotton, tobacco, cacao, or copra, or working for a man who does. But will the peasant eat as well as he did when he grew his own dinner? In parts of Central America, incomes rise as exports increase, but this does not seem to be helping protein levels. In fact, the per capita consumption of meat declines. More meat is raised there than ever before. It seems, however, to be ending up, not in Latin American stomachs, but in U. S. hamburgers.

In a rural setting, increased incomes usually result from the reorientation of traditional agricultural production practices. However, attractive price incentives for wheat, essential to the agricultural revolution and many increased incomes in India, were partly responsible over the last three non-drought years for the declining acreage used to grow high protein pulses. As wheat production has gone up, the production and consumption of pulses—a major protein source in the Indian diet—has gone down. This is not to deny the significant nutritional benefits from increased cereal production. Nonetheless, a 27 percent decline in per capita pulse consumption should be cause for policy concern. (In India, pulse production from 1965-69 is down 17 percent. Because of the 13 million a year population growth during the same period, there is a 27 percent decline in per capita pulse consumption. Incomplete data suggest a possible similar situation in West Pakistan. Acreage for chick peas has declined 21 percent in the last three years.)

The above arguments suggest that, at times, the income/diet relationship is beside the point, as it is when incomes cannot be increased enough during a man's lifetime to meet even minimum nutritional requirements. There is no question that diet changes with increased income, and the higher the income the more noticeable the new foods. But this does not necessarily mean a noticeably improved diet. At certain levels of society, the traditional income/nutrition assertions are incontrovertible. Diets then unquestionably improve as incomes rise. For the very low income groups—and these are the people we are most concerned with—this may not always be the case. Even when it is, the process may

be so slow as to constitute an invalid and unacceptable solution.

The moral of all this is that increased income cannot be regarded—as it frequently has been—as a cure-all for malnutrition. We need to know more than we do of the complex realities of habits among the very poor before asserting categorical income/nutrition relationships.

### **RESEARCH NEEDED ON FACTORS AFFECTING LDC DIETS**

If increased income alone is not the answer—at least for the foreseeable future—then how may a country provide better diets to children of poor families? Only a sketchy examination is possible here. We have all had our turns listening to how soy is the answer, or fish protein concentrate is the answer, or blended cereal-type product is the answer, or lysine, single-cell protein, opaque-2 corn, mothercraft centers, child feeding programs, or nutrition education. A set solution is easy to sell. It is specific. Its costs can be detailed. Its effects are measurable. However, given the managerial sophistication of our society, and given the limitation of resources, can we not do better?

It is suggested here that we do not yet have the answer, basically because too many of us have been looking through the wrong end of the telescope. We should not be starting by examining specific foods or specific fortification schemes. We should be examining what it is that affects the child's nutritional well-being. We should see what he eats, why he eats it, and how it gets to him. What are the feasible points of intervention into that delivery system—points which are susceptible to modification? What are the incentives and disincentives which are at play?

A slight twist of the market mechanism may mean more to the nutrition of a child than all the new foods we could ever devise and produce. A shift in production incentives, retail price policies, or ration shop procedures could well be a major part of the answer.

This, I realize, sounds simple and obvious, but it has not been. I took nearly four years in the field before my own thoughts could be sufficiently sorted out to realize the lacunae in our approach. A project finally has been devised which will study the nutrition delivery system on an entire state in India, the objective being to develop a soundly based strategy for action programs.

### **INTERMEDIATE ACTION**

What do you do while such a study is underway? A

useful analysis is necessarily complex and time consuming. Yet, the nutritional need calls for immediate action.

In India, an attempt was made to generate interest and develop programs without clear answers. Based on the limited information which was available, this involved judgments of need and opportunity. It also involved a battery of practical considerations which seemingly had nothing directly to do with nutrition, but which often were critical bases of decisions. For example, is the proposed action politically attractive? And if so, is it sufficiently visible? How long will it take to see results? What are all the political implications; e.g., how will various commodity interest groups react? Is the cost within the locally accepted realm of practicality? Is the proposed action inflationary? Will there be a requirement for foreign exchange? Is the project—or will it be—self sustaining. Is it replicable and, if so, what are prospects of imitation? Does the project involve other countries, systems, or institutions which could bring embarrassment to the government? Are all raw materials, equipment, and other necessary related components available? And are all the necessary related services in place: transport, packaging, storage, marketing/distribution capacity? What are the long range effects? Does the project better equip the poor to cope with development opportunities? What is the relationship to other programs? Is there a linkage between this and the family planning activity? Does this provide additional employment? Is there an educational dimension to the program?

And then there is a series of practical bureaucratic questions. How able are the people in charge? Do they have the commitment and the muscle (without which approval and allocation mean little) to push the project through? How many officials are involved in the clearance procedure, and how long will that procedure take? What are the administrative constraints, once the project has been approved? What other problems can be anticipated; e.g., what is the potential corruption factor?

### **MODERN BREAD EXEMPLARY**

Much has been said, for example, about Modern Bread—the bread fortified with half a dozen nutrients—in India. This project was not the result of a systems approach, but one of the reasons it has been successful is

that it took into account a number of the above considerations. It was selected as the first fortification venture in India, in part, because it was easy, quick, inexpensive, visible, and required the involvement of relatively few people.

In looking at alternatives, there were more important ways to improve Indian nutrition. One obvious approach would have been to grow more pulses. But this implied changes in land use and, as such, risked controversy. In looking into the pulse possibility, it was soon learned that many officials would be involved, formally and informally, in the decision making process. Also, it became evident that relevant, reasonable, but nonnutrition oriented considerations would weigh heavily on their attitudes.

In the case of Modern Bread, a new policy meant concurrence of the Chairman (who was also the Secretary of Food) and the Managing Director, and those who were attempting to stimulate nutrition in India opted for reality. There was no illusion that fortification of bread would solve India's nutrition problems, but one begins with the doable. There was also the longer view that the project could, if effective, contribute to something more significant.

In short, there is an important psychological dimension to development, and there is nothing more effective in creating momentum than a successful start. Modern Bread, combined with other activities, did just that. It helped to dramatize the fortification principle and led to the Indian Government's formal adoption of a general policy of fortification. This, in turn, led to the fortification of atta, a more traditional wheat mesh used to make Indian chapattis. It also led to new searches for low cost, centrally processed foods which already reached all elements of the population. This meant some new thinking and interesting work in salt fortification and tea fortification.

Other activities also moved ahead. Concurrent with the fortification operations, a Protein Foods Association was formed to do things collectively which most of the individual members would not have resources to undertake alone. A locally produced "Bal Ahar," a blended child's food for free distribution, was produced this year in quantities nearing 60 million pounds. A decision was recently made to give price supports to soybeans. Edible cottonseed was developed. Higher protein seed varieties were identified and a \$140 million program was approved to improve the quantity and quality of urban milk supplied.

More importantly, India adopted a national nutrition policy, perhaps the first country to have one. For the first time, it incorporated a special section on nutrition in the Five Year Plan, and it allocated funds for the program outlined in that Plan. None of this is intended to suggest that India has solved its nutrition problem, or even is well on the way to solution. It does indicate that an encouraging, and perhaps irreversible, beginning has been made.

In summary, we have seen first that the relationship between the growth of per capita income and the elimination of malnutrition rests upon a number of assumptions, all open to question. Moreover, even if the assumptions are valid, increasing per capita income may not provide the necessary nutritional improvement within the lifespan of the needy. Nor is dependence on income growth necessarily the most effective way.

Second, to determine the most effective means of eliminating malnutrition, we must look differently, and more systematically, at the factors affecting nutritional well-being, especially of children. What is the delivery system and how can adjustments be made within that system to get positive results?

Third, we must recognize that the kind of analysis proposed here is not accomplished overnight. Must we then wait until we have all the answers, and take a chance on losing whatever interest has been stimulated? Or, do we move ahead without the answers, as was attempted in India? We may not get the theoretical maximum impact for the invested dollar, but we get something. If we move ahead, do we (as seems fashionable to suggest) try something because the need is so great? Obviously not. There are not the resources, especially managerial resources, for such an approach. One can be selective even without final answers, basing his selectivity on current judgments of realistic opportunity and reasonable payoff.

Finally, in our new interest in sophisticated model building, we must not lose sight of how, in real life, decisions are often made. Policy makers in all countries are mortals, subject to the same emotional interests, anxieties, and reactions as others. Programs are ultimately not the result of econometric analysis, but of political appeals of basic human concerns and of personal intuition. What influences that intuition?

In short, what is being suggested here is a conceptual re-examination intended to bring about an approach both more systematic and more in tune with the complex realities of contemporary decision-making.

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## FORTIFICATION: ANOTHER ALTERNATIVE FOR IMPROVING NUTRITION

*Daniel Rosenfield*

The conventional approach to alleviating nutrient malnutrition of any type is to increase the quantity and variety of foods in the diet. This is essentially the FAO model for overcoming malnutrition. To combat protein malnutrition, an increase in the dietary intake of protein from animal sources is usually given great emphasis. Increasing both variety of foods and animal protein intake costs more money than is currently available for this purpose in a large portion of the population in LDCs, however. Therefore, it is not realistic to expect these approaches to have a meaningful effect in eliminating malnutrition in the next 10 to 20 years for most developing countries. Hence, it is imperative that these poor countries uncover and utilize all alternative methods which are economically feasible at their current stage of development.

One approach is to increase the availability of inexpensive, high protein foods. Another alternative for countries where a few foods such as cereals make up the bulk of the people's diet day after day is fortification.

Fortification of foods is generally defined as the nutritional improvement of widely-consumed foods by the addition of nutrients such as vitamins, minerals, and amino acids (or other protein supplements) without any detectable change in appearance, flavor, and technological properties. Since the foods themselves are not changed, there is no need for marketing changes. Fortification nutrients may or may not have been present in the food at harvest. For example, certain B vitamins are added to wheat flour in the United States to replace the quantities lost during milling. Iodine is added to salt and vitamin D to milk, though both nutrients are not present in the unprocessed food.

For poor countries or poor segments within a country, fortification of cereals such as rice, wheat, and corn appears to be a feasible approach for immediately overcoming nutrient malnutrition caused by poverty. If all cereals in East Pakistan were fortified with vitamin A, for example, blindness due to vitamin A deficiency would cease to be a major health and economic problem.

Cereal fortification with amino acids is particularly important as a low cost method for combating protein malnutrition in cereal-consuming cultures.

Amino acid fortification is a way of increasing utilizable protein of foods and, thus, the effective intake of dietary protein. It is not a way of correcting amino acid deficiencies. When protein concentrates such as soy and fish are used to fortify cereals, however, biologically

utilizable protein is increased at an accelerated rate due to the synergistic action of the amino acids present in both the food being fortified and the fortifying concentrate.

The following data from Professor Mark Hegsted of Harvard shows the increase in utilizable protein when cereals are fortified with amino acids or protein concentrates.

#### INCREASE IN UTILIZABLE CEREAL PROTEIN VIA FORTIFICATION

Cereal	Added Nutrient	Protein (by analysis) %	Utilizable Protein %	Increase per 100 gms Cereal gms
White wheat flour		13.75	3.20	
White wheat flour	0.2% lysine HCl	13.94	5.34	2.14
White wheat flour	5% fish flour	16.66	7.0	2.91
Yellow corn meal		7.95	3.0	
Yellow corn meal	0.1% tryptophan and 0.3% lysine	8.37	5.1	2.1
Rice		7.12	4.55	
Rice	0.3% lysine and 0.1 threonine	7.52	7.57	3.02

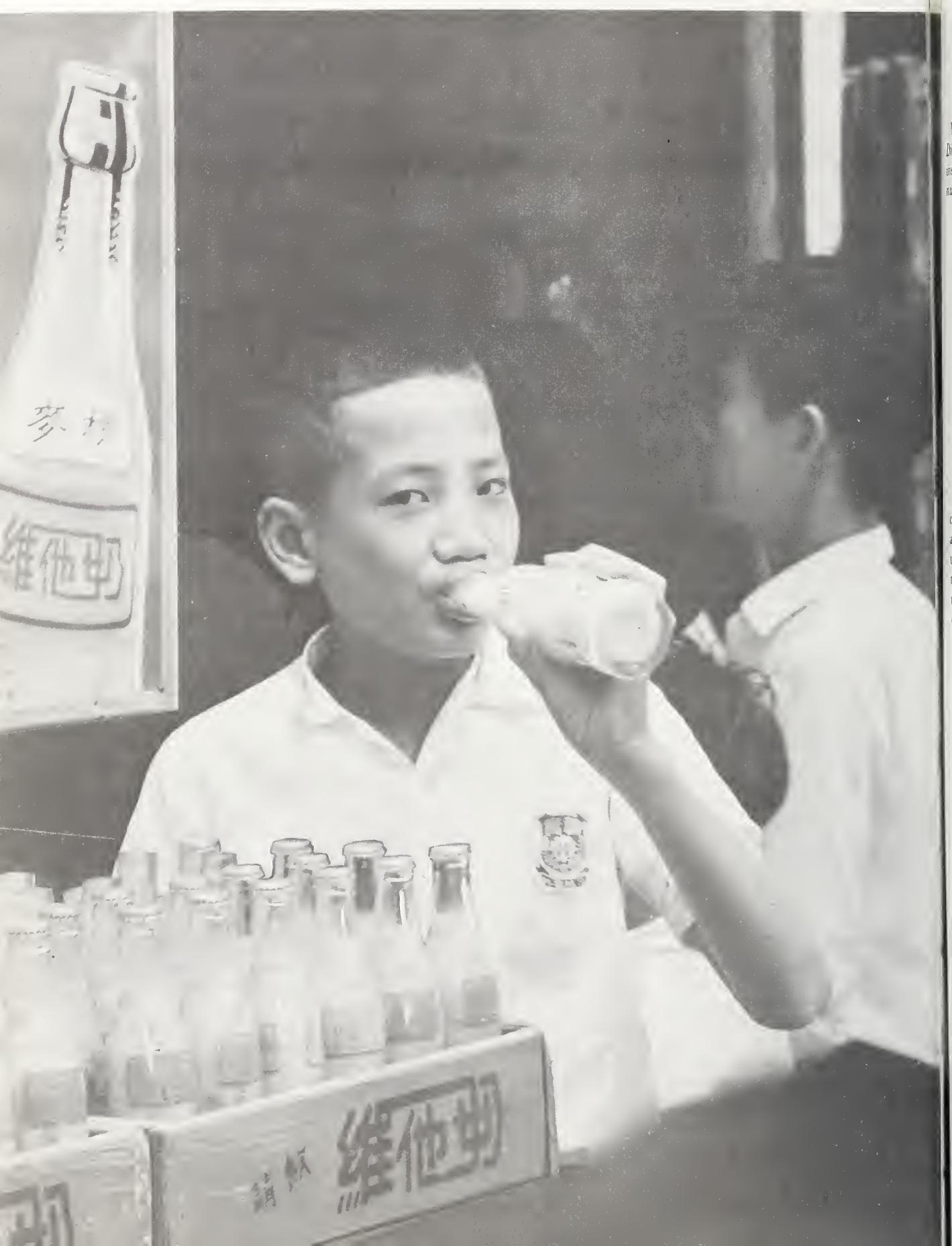
The cost of the added nutrients is equivalent to the cost of the increased level of protein. For example, in the case of wheat fortified with lysine, each pound of additional utilizable protein would cost approximately 10 cents.

There is an inherent problem in the marketing of a fortified cereal food product whose appearance, taste, and texture have not been changed from the unfortified food. The attractiveness of the fortification approach lies in the fact that no changes in marketing systems and eating habits are required since the food itself is not detectably changed. However, this is also a drawback since the consumer sees no reason to pay an increase of 3 to 10 percent for the fortified food over the unfortified food. Perhaps the fortification approach will work best in new foods. For example, an instant tortilla

mix is being marketed by General Mills in Guatemala. When this new food item was introduced, it could have been fortified with amino acids or soy protein and the consumer would have paid the fortification costs along with the convenience costs of "instantizing" the tortilla mix.

Together with AID's Office of Nutrition, we are helping the Brazil AID Mission develop a project to investigate the feasibility of fortifying mandioca (cassava) with soy isolate. We intend to study the marketing of a fortified cassava which appears to be identical to untreated cassava vis a vis the marketing of a fortified cassava which intentionally "looks different."

Fortification is not the only answer to making up protein deficits among poor people. We do believe it is a viable, realistic approach which can have almost an immediate effect.



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## THE ROLE OF PRIVATE ENTERPRISE IN MARKETING FOODS TO LOWER INCOME CONSUMERS IN DEVELOPING COUNTRIES

*H. C. Frost*

The malnourished and the hungry in developing countries have posed a new challenge to governments and industry over the past 10 to 15 years. These people usually are in the lower economic groups, have a high rate of illiteracy, and many are in remote, difficult-to-reach regions. Consequently, new problems are encountered in efforts to alleviate their food deficiencies.

Governmental bodies have made contributions to the solution of these problems. I expect you are familiar with most of these. Private enterprise has also played a part in most of the numerous steps involved in getting foods to these peoples. Since our discussion deals with getting foods to consumers, I will refer to two distinct roles of private enterprise in marketing foods in the developing countries.

In its first role, private enterprise manufactures food products according to government specifications and at government cost, and ships them to remote locations where the foods are given to the needy. Such give-away programs frequently do nothing to help the economy of the country, but they provide food on a sustaining basis to those who might otherwise have little or no food.

The other role of industry is to conceive product opportunities, develop and test the products, and then manufacture and sell these to consumers. Since we are discussing the marketing of foods, it is this latter role which we shall discuss in detail.

### PROFITS REQUIRED

Private enterprise depends on the generation of profits from the sale of its products to keep investors' funds in the business and to generate new capital. Hence, it must

*sell its products to consumers who have some money. Those families outside the money economy must depend on nature's crops and upon government give-away foods for their sustenance.*

People in the lower economic groups generally have been, and are, in what we term "the produce economy." That is, they depend on the direct output of nature for their foods. They consume few "processed" foods and these are of the simplest types. Their diets are heavily oriented to cereal grains, legumes, vegetables, and fruits. Their diets are deficient in meat, milk, and eggs. Hence, they are deficient both in quality and quantity of protein.

We begin to see a picture of the challenges faced by private enterprise in trying to carry out the second role:

- Foods consumed are quite simple.
- Potential customers are not in the habit of buying packaged, processed foods.
- Illiteracy and an environment with little change make people suspicious of new products and difficult to educate about new foods.
- Many of the retail outlets at which these people make their purchases are too small to be contacted in the normal course of business.
- Protein of adequate quantity and satisfactory quality must be formulated into the products.
- Retail price must be low enough to permit purchase by those within the money economy while yielding, over the longer term, a reasonable profit to the entrepreneur.

These challenges are vastly different from those faced in sustaining programs where foods are given away by governmental bodies.

## THE CASE OF DURYEA IN COLOMBIA

In examining how these problems can be faced, perhaps a case study is the simplest approach. Duryea, a weaning food put into the market last July by our affiliate, Maizena, S.A., in Cali, Colombia, can serve as a good example.

The strong emphasis on nutritional needs of weaning infants and young children led to the decision to try to introduce a weaning food into the market in Colombia. This was done in spite of Incaparina, Colombiharina, and Poehito already being marketed as processed weaning foods. Market analysis has shown relatively small penetration of these products and the possibility that another product, if properly tailored to consumer preferences, might achieve good penetration.

Market research showed that the most widely consumed foods for this age group were bottle-feeding formulas (teteros) and thin gruels (coladas). A distinct preference for corn-based products was evident. It became possible to write a concept statement fully defining the type of product needed.

Coincident with this work, high-lysine corn was being grown which had sufficient genetic modification to assure that its superior nutritional properties would be retained. A decision was made to use this high-lysine corn as a major ingredient in the product. Numerous formulations were developed. Some were discarded immediately as not meeting the cost target. Others were consumer tested until a high enough rating was achieved. Finally, a product formulation was accepted which met consumer acceptance requirements, provided at least minimum nutritional needs, and came within the cost specification.

The choice of the formulation presents some important marketing challenges. Low cost is a must if penetration of the low economic groups is to be achieved. Yet, there is plenty of evidence of failure or lack of success caused by adherence to the principle that the lowest cost nutritious food is the best. Even the poorest people will not consume lower cost food repetitively unless they continue to like it. Hence, a primary requirement is to assure acceptance by consumers. Thereafter, the requirement for nutritional adequacy at the lowest cost must be satisfied.

Packaging is another factor which must be carefully considered. Apart from its function of protecting the product over its normal storage life, the package conveys a message and creates an image in the mind of the consumer. A cheap package can well create the image of a second-class product. Even those at low income levels have pride and want to believe they are "buying up" to the kind of products eaten by higher income groups. Also, the package graphics tell a story which is an important factor in point-of-purchase choice by the consumer. Preparation instructions on the package must be in words and in pictures. Many in the lower income groups cannot read and must have instructions conveyed by pictures. As with formulation, the marketing choice of an acceptable package must compare desired result with cost, with the final compromise having an important bearing on success.

Still another important marketing decision is the size of the package. Often the tendency is to market larger sizes to take advantage of the somewhat lower cost per unit weight of product. Since the amount of money available to spend at any time may limit the ability of the purchaser to buy a product, the unit price must be carefully selected.

These challenges were resolved for Duryea by choosing the formulation which was repeatedly picked as being best liked by the consumers. Packaging chosen was a sealed polyethylene bag containing the product inside a paperboard carton. The unit size chosen was 250 grams, to be priced at \$2.80 pesos (about 15.5¢ U.S.). This would provide 10 servings of the gruel (colada), each containing 6.8 grams of good quality protein for 1.7¢, and 17 servings of the bottle-feeding formula (tetero), each containing 4.0 grams of protein for 1.0¢.

The nutritional adequacy of Duryea had been demonstrated, but both animal and clinical tests were undertaken by Dr. Arturo Pradilla at the Universidad del Valle in Cali. The protein efficiency ratio (PER) in weanling rats was shown to be 2.36, as compared with 2.50 for casein. The biological value for human beings was found to be 45, as compared with 51 for cow's milk.

An important obligation of any company is to first assure that the food it intends to market is nutritious for its intended consumers. It should not depend only on

local governmental units to determine the nutritional adequacy of its new products. At the same time, confirmation of nutritional adequacy, within the country, has the merit of building confidence among nutritionists, pediatricians, public health workers, and others who may be anxious to help consumers understand the benefits which a product can bring to them.

The advertising campaign to acquaint potential consumers with Duryea was heavily oriented to radio. The widespread use of radios, even in the poorest homes, and the value of communication by audio means among those who cannot read were major factors in this decision.

Effort was made to gain distribution in all retail outlets in the Cali area, and some 2000 outlets were eventually selling Duryea. Point-of-purchase and in-store demonstrations, where customers tasted the product and had immediate opportunity to purchase it, were helpful in introducing Duryea. The support of key individuals in the government, public health workers, and pediatricians was also an important factor in bringing Duryea favorably to the attention of potential consumers.

In the intervening months since Duryea gained distribution, the results have been satisfying. The product is being consumed repetitively by those in all income groups. Its sale will be expanded to other cities in Colombia as raw materials and production facilities become available.

In spite of Duryea's apparent initial success, we know relatively little about the many challenges imposed in marketing products successfully to low-income groups in developing countries. Only through experience can we gain the knowledge needed to introduce foods to such groups with reasonable likelihood of success.

We believe that the role of private enterprise in marketing foods in developing countries should be to build the economy of the country while contributing to the better health of its people. This is accomplished by marketing foods which people like, which they can afford, and which are nutritious. This means using indigenous sources of raw materials if at all possible, putting local people to work processing the raw materials into products, and using established distribution

channels to get products to those who need them. It means investing in the future of the country in the belief that, as the economy grows, so will business. It means managing the business to obtain these results while, at the same time, assuming a reasonable return to the company's owners over a period of years. This is a satisfying role which will contribute to the growth of the country and the company.

## DISCUSSION

*Ellis:* I have one comment to make: CSM (corn, soy, milk blend) and WSB (wheat, soy blend) are U.S.-produced, low-cost, high-protein (20 percent protein), good amino acid balance blends which we are shipping overseas. We have shipped over a billion pounds since the first purchases were made in September, 1966.

What is the significance of this? The significance is that we have done for human feeding what was done for animal feeding 40 years ago. This is nothing but the principle of balanced rations, and any animal feeder who has not been using that principle for 30 years has been bankrupt for 20. The Wheat-Soya Blend Producers' Association has recently produced an excellent brochure on the subject; you can get it by writing the Bulgur Associates or the representative of the Millers' National Federation here in Washington. It seeks to sell the product and talks about it as adult vitality. It also notes nutrition's influence on body size: the father looking up at the taller son, as in the Japanese experience. I feel that the high protein products should be distinguishable and that they should be sold on the basis of adult vitality as well as healthy babies.

*Call:* In improving food marketing, one of the prime measures of success would be a general improvement in nutrition. This is one of the things we've got to get into our marketing work as an output. A second point that I think Alan Berg made very clear is that, given the nature and the severity of the nutritional problems in many of the developing countries, we cannot wait for the normal market processes to solve the problem. This means, then, that we are going to have to move (and we are moving) to what we refer to as nutrition intervention programs, a

conscious effort to change the nutritional status of people. Some of these nutritional intervention programs are going to go through the normal market mechanisms. Incaparina, the opaque-2 product in Colombia, and pro-nutro are examples, and one could name many more such cases. But this is also a very small step toward total solution.

One of the other prime considerations of marketing specialists, and where they can be a real help to nutritionists and planners, is in the non-market-oriented interventions such as school lunch programs, government feeding programs, fortification programs, etc. In the past, there has been very little work done in measuring the relative efficiency of these different interventions. Taking some target group such as pre-school children, and given some idea of their deficiencies, economists, and particularly food marketing people, should be able to use their analytical tools and help nutritionists decide which is the most efficient way of reaching this target group. Can we do it best through maternal health centers? How does fortification stand up versus some other programs?

Another comment I have deals with different types of programs relating to Dr. Rosenfield's remarks. Fortification is what some of us refer to as a shotgun type program where you put something into a product and throw it out to the whole population knowing that everybody in the population does not need it and that some of it is going to be wasted. We do it with iodized salt in the United States; we do it with niacin, riboflavin, and so on in enriched bread. The alternative is to take the so-called rifle approach; that is, define your target very precisely and then find a weapon to reach that target precisely. There are, then, two different methods or approaches, and the relative efficiencies of these two methods need to be weighed. Marketing people can be a great help in this because the nutritionists get lost, in many cases, when they get into this area.

The last point I want to make is directed to Berg's examples of bad nutritional habits which come with increased income. As he indicated, westernized white bread introduced into a developing society presents a situation where you must develop a taste for a product which you artificially fortify to get it up to where it was before you started with it. Alan, you know that is a double-edged sword and there is a real question again as to which is the best way to go.

The concept of white bread in the bakeries was placed in India by other donor countries. To his credit, Alan did build on what was going to happen anyhow and made it a great deal better. Fortified white bread did make some contribution to the development of a modern food economy and also to the food supply.

*Berg:* I don't want to sound offensive on the Modern Bread issue because I think that affair has been over-emphasized by a number of people. What I was trying to suggest was not that Modern Bread was a panacea, but that some of the conceptual considerations have applicability beyond just that one situation.

Frank Ellis is right that other countries became involved, but the reason they became involved was even more interesting. In the mid 1960's when India was going through the great droughts and famines, wheat was more readily available from abroad than rice, and the Indian government made a conscious attempt to change cereal habits. In the process, Australia, New Zealand, and Canada helped in putting this together.

What actually happened as a result of this surprised many of us, certainly me, because it has been assumed all along that bread was food which would be consumed by the urban "upper crust." In fact, a study just completed last December showed that, in Bombay, 40 percent of the people in the lowest income group surveyed (under 26 dollars per family per month) consumed bread every day. And beyond that, bread was also reaching much further into the hinterland than we had ever imagined. One of the more exciting aspects about the Modern Bread scheme is that virtually all breads in India have now been fortified—if only for competitive purposes.

On David Call's other point, I certainly agree on the need to examine relative efficiencies, and this is really what I had in mind when I was discussing alternative delivery systems. What I am trying to say is that a conclusion which may emerge from such an analysis might not involve many people in this room or many people in the nutrition fraternity; it may not be a food processing problem, or fortification problem, or medical problem, or even a marketing problem in the private sector sense. Maybe the best thing we can do in a country like India is to put an entire national budget into trying to reverse

the nutritionally disastrous trend of early weaning. Maybe we ought to do everything we can to keep the baby on the breast longer. It is conceivable that this can do more for nutrition in India than anything else. All I am saying is that we should not prejudge: let's not decide until we have the right answers, and we cannot get the "right answers" until we ask the right questions. We have to play some hunches and do the best we can with limited information while we're trying to find out.

*Jones:* It seems appropriate to examine the previous discussion in the context of an African setting. In the situation which one encounters in most of tropical Africa, it does not make much sense to talk about fortification of Incaparina-type products because people are not obtaining their food stuffs through the market. Rather, they get them through their own labor on their own farms.

The prospects for this type of program do not improve significantly when one moves on to the kind of market system which characterizes the part of the developing world where the marketing chain is short. Here, the actual food processing may be done in the home or after the cereal is purchased; the opportunities for fortification are again extremely limited.

In addition, experience in other parts of the underdeveloped world has given me the impression that the principal nutritional problem is protein-deficiency in pre-school children, infants, and pregnant and lactating women. It may not be necessary, therefore, to try to use international standards across the whole population and get terribly upset about the fact that the protein consumption level falls below some international standard. It seems to me that, if this is true, we make a mistake if we try to rely on the marketing mechanism very much to improve the quality of nutrition in societies of the type I am speaking. Hence, a rifle shot, or at least "aimed shot," approach should be made at the critically vulnerable groups of the population. I also have the impression that mothers of these babies are really quite responsive to this kind of information and education. Unfortunately, they are so often given bad information that they cannot always tell which way to go.

*Berg:* First, I tried to qualify, at the outset, that much of what I had to say was Indian-oriented, and based on recent Indian experience. I recognize that what happens

there doesn't necessarily apply elsewhere. I think that one of the few things that the nutritional fraternity will agree upon is that pre-school age children are the critical group, and we have to do everything possible to reach them. But there are very few programs that do reach them.

This does not necessarily rule out the effectiveness of some of the more conventional programs as a means of reaching pre-school age children in a round-about way. For example, Frank Ellis has been criticized on a number of occasions for the fact that most of the PL 480 program goes to older children. But we found an interesting thing in India. What I am about to report should not be taken as a final word because the numbers are all in the computer, but we hope to have an analysis of a two-year study in the state of Arisa coming out later this summer. What we are beginning to find there is fascinating; that is, there is a lot of substitutionality in diets. When you feed a child in school, he gets less at home. This is not necessarily bad, but the question, then, is what happens with that extra resource? Does it mean the father brings less food home and goes out and "boozes it up" with that extra money, or does he bring the same amount of food home and it's just distributed differently in the family? We found that, often, it's the latter. Therefore, the child in the school feeding program may be the best mechanism we have to reach pre-school children. These are things which we have to examine along these lines.

We cannot think of fortification as being a complete answer to rural problems. There are foods in a country like India which do get very deep into the rural hinterlands. These are foods which are centrally processed, which reach virtually everyone. Salt is an example; everyone in India uses salt. Even if he is not part of the monetized economy, he barters for salt. In fact, we find people who need nutritional help most often use the salt because it is the only flavoring agent they have. There has now been a green light from the top nutrition scientists in India to fortify salt with iron and with calcium, and there is a state-wide survey beginning next month to see if they can do, in a field operation, what has been proven successful in a smaller, controlled situation. For similar reasons, tea is being examined as a possible fortifier and it looks like it might be used effectively for fortification with vitamin A.





*Section IV*

**EFFICIENCY IN THE MARKETING SYSTEM**

**Marketing Functions — Increasing Efficiency**

*Kenneth Farrell*

**Increasing Efficiency and Improving  
Transportation of Food Products**

*Grace W. Finne*

**Increasing Efficiency of Central Markets**

*William C. Crow*

**Reducing Losses in Grain Storage**

*Lyman Henderson*

*Dr. Farrell is an economist with the Giannini Foundation of Agricultural Economics. He has been on the National Commission on Food Marketing, a Fulbright lecturer in agricultural economics in Italy, and a staff member at the University of California.*

We should not conceive of marketing or marketing efficiency in too narrow a framework. While the physical and distributive functions of marketing are a vital part of the system, there is much more to marketing than the physical movement of goods and transformation of products. We have to be just as concerned with organizational aspects of the marketing system, the nature or structure of the market, the nature of competition, and a host of institutional factors. We must also be concerned with the physical functions of grading, storage, transportation, and so on.

Even in this country, marketing efficiency is often discussed within a rather narrow and inadequate framework. I would hope that, as we proceed in subsequent discussions, we will not lose sight of the fact that we must be concerned with such aspects of marketing as organization and institutions and the provision of services other than those related simply to physical movement of goods. I would cite just a few examples of how the physical aspects of storage, grading, and transportation must be related or integrated into a broader framework to make sense in terms of the total development aspects of the countries we are talking about.

An adequate and responsive price system has to accompany any development of the physical facilities. We know that the price system is an important allocator of resources, an important mechanism through which consumers express their preferences and desires in the system. It is fully as legitimate, and perhaps fully as important in our diagnostic and prescriptive approach to marketing problems, that we look at the efficiency of the pricing system just as we look at the physical efficiency.

The matter of an information system upon which the physical structures of the system can function has been mentioned and emphasized. I think there are many examples which I have observed in countries around the Mediterranean Basin which suggest that better planning would have occurred, and better export marketing programs would have been developed, had there been fuller, more reliable kinds of information and information systems available to producers and exporters as well as government.

Large sums will be required to develop new and modernized marketing facilities and structures, and I think that we need to be very cognizant of the fact that there is a capital shortage in many of these countries. We need to be looking for sources of credit and capital to finance market development. It is hardly necessary to state that, at the producer's level, the matter of access to credit is vital if they are going to capitalize upon certain kinds of marketing innovations. For example, if farmers have inadequate sources of credit or capital to carry their grain into storage periods, they are very likely to

continue their traditional patterns of seasonal marketing no matter how elegant or how modern the grain storage facility may be which we build. So, the matter of access to capital and credit is a very vital one, not only for the construction of marketing facilities, but for farmers to utilize these facilities.

Also important is the study of what one might call the market rules of the game in the marketing system in foreign nations. The wholesale market is an example. I am thinking here primarily of fruits and vegetables which are important sources of revenue for local municipalities in countries around the Mediterranean Basin. A code builds up around these markets. Certain practices evolve over time and we need to be cognizant of the institutional elements which grow up around these markets. These may be serious impediments in the development and efficient functioning of the marketing system.

Of course, one could cite many other examples of physical and distributive aspects of marketing. There is the situation in India where the grain storage facilities were so inadequate that schools were closed so the grain could be stored in the school houses. This is mentioned as an example of the need for concurrent planning between production and marketing.

The reverse of this situation does occur occasionally in the developing nations. Cold storage and conditioning plants were constructed in the Mediterranean Basin with the objective of trying to lead or encourage production and improve marketing efficiency for fruits and vegetables. It turned out that these facilities were grossly under-utilized and were really inadequate or inefficient in light of subsequent conditions in the area. In part, this was due to the failure of the planners to assess adequately the competitive position of the region in national and international markets; in part, also, because they lacked market information and because of a failure to simultaneously bring about certain other kinds of economic institutional changes which would make it feasible for producers to utilize the facilities for their intended purposes.

While this panel is concentrating primarily upon what I would call the physical-distributive functions, these functions should be examined not as independent activities but, rather, as a set of activities related in many ways to the organizations and institutions within which they operate. I do not say this in any way to deprecate the need for improved storage, transportation, wholesaling, or processing facilities. I say it simply to underline the fact that, as we diagnose marketing problems and prescribe programs to improve marketing, we must be aware of the fact that there are many interfaces between the physical activity of marketing and the economic and institutional aspects of marketing.



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## INCREASING EFFICIENCY AND IMPROVING TRANSPORTATION OF FOOD PRODUCTS

*Grace W. Finne*

Transport improvements may take many different forms depending upon the country's economic and geographic situation as well as upon the current state of the transport system. It is very important to look at the network as a whole when priorities of transport investment and technical assistance are to be decided. If transfer points are not geared to increased capacity elsewhere, the gain from inland transport improvement may be severely modified.

In developing countries, road transport costs are important for food production, the location of markets, and food prices. Road transport includes feeder roads which link up with main roads or rail-water-air terminals, as well as the major arteries for long distance hauls. Because of the general problem of overcoming vast distances and connecting villages which have a low level of economic activity, the improvement of trails and dry weather roads to permit year-round truck service is an important task.

The initial construction of penetration roads must be followed by a strict schedule of regular maintenance to reap lasting benefits of such improvement in terms of lower transportation rates and improved quality of service. One of the greatest challenges to U.S. technical assistance is, therefore, the training of maintenance crews and organizing highway maintenance units.

In a recent study of truck operating costs in Senegal, for example, operating cost per vehicle kilometer of a 6.7-ton truck was calculated at 37 cents for unimproved earth trails. By improving the trail through grading, the cost would drop to 23 cents per kilometer. A gravel road would reduce the cost to 17 cents and a surfaced asphalt road would further reduce it to 14.6 cents per kilometer. In addition, with an asphalt or gravel road having a base thickness of 12-15 cm. of select material, semi-trailers could be operated which would reduce substantially the cost per ton kilometer compared to the 7-ton truck. Increases in agricultural production would also favor introduction of heavier and more economical truck units.

Improved transport service on existing railway lines may consist of replacing obsolete rolling stock and worn-out tracks and improving motive power or terminal facilities. Quite frequently, the main benefits consist of saving in transit time by reducing delays and congestion.

This reduction in time can often be of critical importance, as when transporting livestock, for example.

Reduction in rates seldom takes place as a result of such investment in railroad facilities. Where reductions in railroad tariffs have occurred, they have been forced on the railroad by the opening up of competitive trucking services. However, improvements of rail facilities deter railroads from counteracting rising costs by rate increases. With the general problem of inflation, stable tariffs are, in effect, reduced tariffs in real terms.

Inland waterway services are important means of transport in many developing countries. Improvements may include navigational aids, dredging, or the introduction of new tow boats and barges. Because of the inherent slowness of river transport, food staples, such as rice and grains, and foods less subject to deterioration, such as palm oil in drums, are food products frequently transported on inland waterways.

Since inland waterway transport is the least expensive form of transport on a ton-mile basis, improvements in service benefit shippers in the form of more reliable service, improved capacity, and reduced losses from pilferage rather than any further reduction in tariffs.

Closely connected with physical improvements of transport facilities are efforts to rationalize the scheduling of pickups and deliveries. The shipper of food products may reduce his freight bill if he can provide enough volume. Individual shippers may form cooperatives, or local authorities may coordinate shipments, so the load capacity of the carrier is fully utilized. This is particularly the case with railroad transport where rates for full carloads are more favorable than for less than carload shipments.

Similarly, if shippers could coordinate their shipments of fertilizers and other farm inputs and have them carried on the return trip from the market, truckers may be able to quote more favorable round trip rates.

### TRANSPORT REQUIREMENTS OF FOOD PRODUCTS

Food products have different requirements for transportation in accordance with the degree of perishability, the ease of handling, intrinsic value, and the anticipated demand in domestic and international markets.



A special challenge is improving the conveyance of perishables. The extent of spoilage and losses of perishable food products because of lack of proper transport and warehousing facilities is a direct economic loss to farmers and consumers alike.

An FAO marketing study in Libya points out that inadequate transport and storage facilities are not wholly to blame for losses and spoilage. The human factor is also very important, and supervision and training in handling of perishables may substantially reduce losses, even if the transport equipment is not ideally suited to the job. Eggs left in the sun while the driver takes a nap and workers riding on top of trucks loaded with melons or other perishables are examples of malpractices often observed.

From a technological standpoint, "the cold chain" of refrigerated transport offers a solution. The high cost of refrigerated transport, however, requires a highly organized marketing system to make it economically feasible.

Refrigerated transport of oranges is particularly important at the end of the season when the sugar content increases substantially in relation to the acidity. In the Mediterranean Basin, refrigerated fruit vessels maintain regular service to West European and North European ports. Refrigerated freight rates are on the average about 50 percent above non-refrigerated rates.

It is very important to view refrigerated transport as a chain and to plan for the speediest transfer from one part of the cold chain to another, as from truck to warehouse and vice versa. One way of assuring transfer efficiency is to create integrated companies handling production, transportation, and distribution.

Developing countries may enter into cooperative or joint ventures with processors or distributors in the main West European or North American markets. The world trade in shrimp is a typical example of such integrated company approach.

The selection of the least-cost transport mode for meat products involves an analysis of many variables. Most important is the factor of distance between the grazing lands and the consumer markets. The greater the distance, the more economical it is to ship refrigerated meat rather than livestock. Livestock exhaustion becomes a serious problem in any motor or rail trip involving over 28 to 36 hours or 300 to 500 kms. in distance.

Poor treatment of livestock and inadequate carriages can intensify these problems. In Colombia, it was found that moving cattle by foot 250 miles resulted in the loss of 176 pounds per animal. Transport of cattle over the

same route by rail and boat still resulted in the loss of about 100 pounds per animal. Consequently, about 12 to 20 percent of the beef produced in Colombia never reached market.

Owing to the special problems found in Colombia, a system of meat transport by air was initiated and, surprisingly, it proved cheaper than any other mode of transportation. It must be kept in mind, however, that air transport of meat is likely to be profitable only under special conditions, such as those in Colombia where alternative modes of transport are severely handicapped by terrain, scale of market, and other factors.

Since only 50 to 70 percent of the live weight of an animal can be sold as meat, refrigerated transport offers considerable scope for savings in transport cost.

## DISTRIBUTION OF ECONOMIC BENEFITS FROM TRANSPORT IMPROVEMENT

Transport benefits can be distributed in several ways. Shippers benefit directly by reduced trucking rates and improved quality of service. Transport companies may, however, absorb road-user savings to expand operations or to counteract rising labor costs. The distribution of road-user savings is sensitive to the competitive and regulatory environment. If more truckers are attracted by road improvements, the relative gain of the shipper will be considerably more noticeable than in a case where the national government regulates trucking rates and the entry into the trucking business is restricted.

In some cases, road conditions are so bad that detours doubling the distance to be travelled are necessary. Under such circumstances, truckers refuse to quote rates before shipment, and charges are made on a "cost plus" basis after completing the trip. If roads are improved to the point where truckers are able to give a price on their services before shipment takes place, the agricultural producer can afford to diversify or to start producing for the market place instead of only for his own family.

If the predominant cargo movement is in agricultural products, the transport benefits can more easily be assigned to the agricultural sector. Frequently, however, the cargoes carried are diverse, particularly if the transport improvement is related to a main artery and serves exports, imports, and local marketing. Transport benefits for farmers inside the market economy would be a two-directional benefit — on farm input, such as seed, fertilizers, and pesticides, and on the food products to be marketed.

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## INCREASING EFFICIENCY OF CENTRAL MARKETS

*William C. Crow*

Some years ago our city produce markets were antiquated and inefficient, largely because they had outlived their usefulness and did not meet the needs of the changing times. They were not large enough to handle the increased volume of food moving to the cities. Railroad cars could not be moved to the buildings. Streets were too narrow to handle the traffic. The markets were located in the wrong part of the city and could not expand. The buildings were not suited for efficient handling. Refrigeration was inadequate for properly protecting these perishable products.

In more than 60 cities, plans were developed for abandoning these facilities and transferring the business to properly planned, modernized food distribution centers. In more than half of these cities, the new facilities have been built and still others will be. In these new facilities, products are handled fewer times and at less cost. They move through these market centers in less time and with less deterioration and spoilage. Furthermore, the relocation of the food marketing operations has made possible the redevelopment of the blighted downtown areas they left.

In this manner, we have corrected many of the defects in our wholesale markets, eliminated some handling operations, and reduced the costs of others. This has been accomplished by studying the needs of the locality involved and bringing together the knowledge of marketing specialists, engineers, and businessmen in a common effort to create as efficient an establishment as possible — a market center which will meet today's needs and which can, with minimum expense, be modified to meet the needs of the future.

By a similar approach, the facilities in producing areas are being modernized; transportation and storage are being made more efficient; retail food outlets are being improved; and these successive steps are being woven into a better coordinated system.

This movement toward creating more efficient facilities for marketing is not restricted to the United States. New market centers have been created in Paris and 18 other cities in France. The Covent Garden Market in London is being relocated, and new facilities have been built in many other cities of the United Kingdom. Similar action has been taken throughout Europe, Canada, South Africa, Australia, Brazil, and many other parts of the world. Developing countries are recognizing the necessity of having marketing facilities to distribute their products. Throughout the world, the movement to improve physical distribution between farms and consumers is growing. The experiences of one area are being drawn upon and adapted to the needs of another.

It is no more possible to step up production in a country without, at the same time, establishing an adequate distribution system than it is to cut cloth with scissors having only one blade. We may deceive ourselves by stepping up production in an area without having the necessary facilities to distribute the products. However, without giving adequate attention to both production and distribution, we cannot make the system work.



*Dr. Henderson is Chief of the Stored-Product Insects Research Branch of the Agricultural Research Service, U. S. Department of Agriculture. He has been with USDA since 1938 and working in stored product research since 1951.*

## REDUCING LOSSES IN GRAIN STORAGE

*Lyman Henderson*

My comments will be concerned primarily with biological organisms which are important contributors to food loss in marketing. If we consider the grain commodities, then we would perhaps list insects, rodents, and the storage fungi as being important.

The Agricultural Research Service's Market Quality Research Division has as its objective the finding of better ways to prevent damage, loss, and deterioration of quality of agricultural commodities in the marketing channels. The rodent problems are handled in the Department of the Interior and, therefore, we will merely call attention to their importance.

In some of the developing countries, we have a range of estimates on the amount of damage caused by insects all the way from 5 to 30 percent. Insects contaminate and devalue even larger quantities than they actually destroy. In countries where food is scarce or hard to produce, this part of the production should be saved, if possible.

We have made studies which indicate that the development of adequate insect preventive and control measures will more than pay off in economic benefits, even considering the cost of control and protection. If we put a considerable investment of time and effort into producing a crop, we should try to preserve it after we get it to the point where it is nearly ready to be eaten.

There are a number of other things to consider from the standpoint of loss of nutritive factors. When storage fungi and microtoxins develop, there can be health considerations. Information now available ties insects to

some of these health factors. I would suggest that we take a good look at the importance of controlling the insects and reducing the losses they cause.

### THE PREVENTIVE APPROACH

Having taken a look at the problem, what do we do about it? How do we reduce these losses? We emphasize the preventive approach, and some of the basic factors here are simply to store grain in clean, tight, weather-proof structures. They don't necessarily have to be expensive. Also, grain should be kept dry and cool. In many places, this is difficult. But anything will help which tends to inhibit the development of insects and the storage fungi and helps maintain the quality of the grain.

Harvesting, handling, and storage practices vary greatly between countries. However, in many cases, a critical review of these practices may reveal ways improvements could be made and alternatives for strengthening our means of applying these preventive factors. One important thing which is frequently overlooked is the importance of simple sanitation. For example, when bringing a new crop in, clean out all remains of the old crop which has been in storage and is probably infested. If it is not removed, infestation may enter the new crop as it is placed in storage. Cleaning in and around storage sites is highly important, and it is surprising how few people in developing countries recognize the importance of this point.

In many production areas, there will be an infestation of storage insects in the grain by the time it is mature and harvested. This means that, soon after grain is placed in storage, one should take measures to stop the development of insects if that product is going to stay in storage for any period of time.

There are occasional problems of procurement and safe use of insecticides and fungicides. In many places, it is just difficult to apply these control or preventive measures properly. Even if the grain is not infested and one applies basic preventive measures as grain is placed in storage, after a time, in most parts of the world, infestation is likely to occur. Therefore, it may be desirable to make some attempt to bring grain into a central storage and handling area where proper technology can be applied. In such an area, personnel can handle the control measures with proper equipment and facilities.

I would also comment on planting seed. Insects, rodents, and fungi can either destroy the seed or imperil its viability. It is highly important that one takes good care of planting seed.

#### CONSIDERATIONS FOR PROCESSED GRAINS

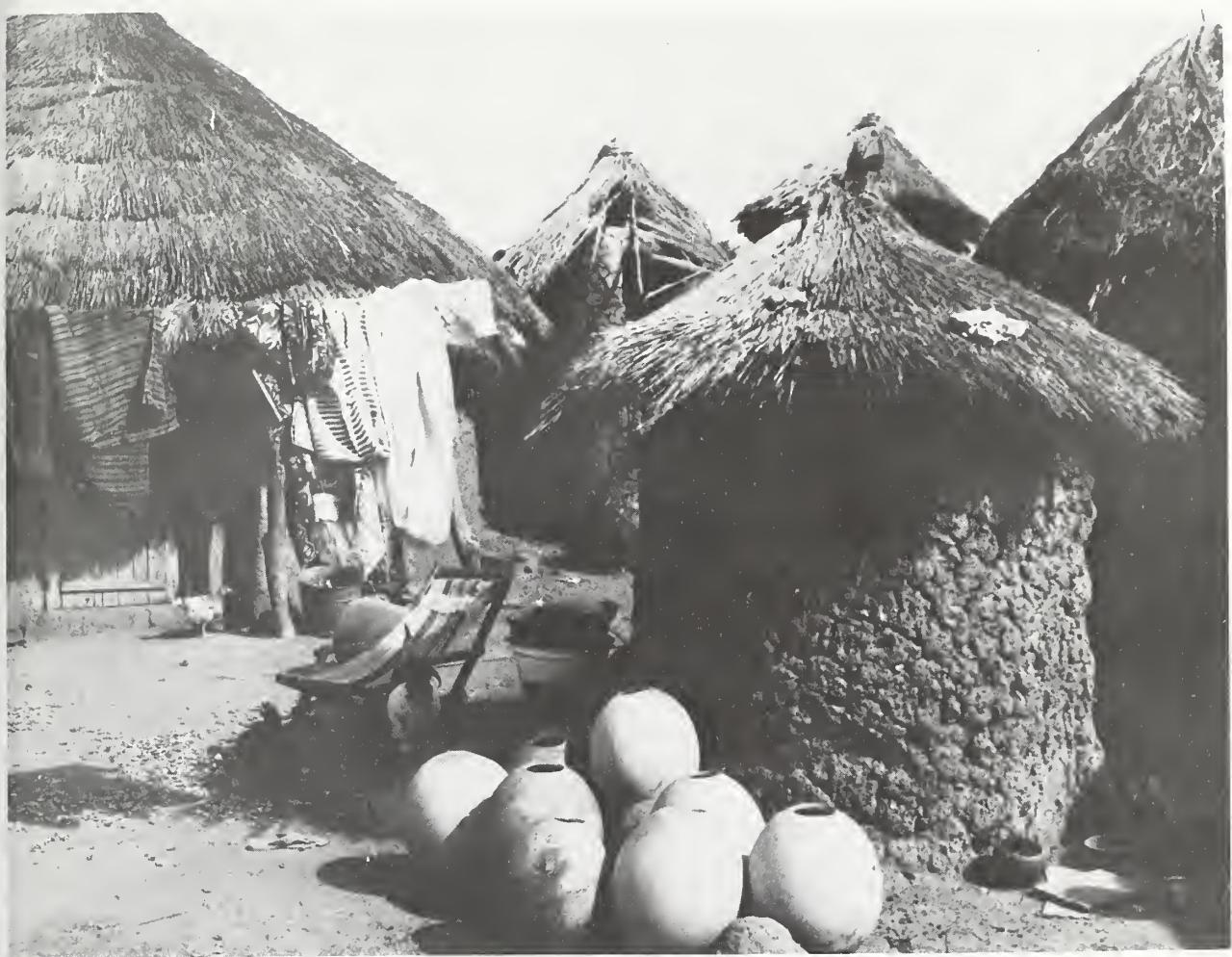
The cereal products which are derived from the grains themselves also need consideration. Cereal products play an important role in programs for feeding the needy. Grains must be given adequate protection to reduce contamination so they arrive to the consumer as clean, wholesome, palatable food. Insect-resistant packaging or protective packaging is a possible answer to the problem. As commodities move through distribution channels, there are many points where the infestation hazard is extremely high. If a good package is put around the product, it stands a better chance of arriving to the consumer in good condition.

Our Division has been doing research on insect-resistant packaging for several years. We have sent shipments overseas to see how they perform as they get into conditions other than those they would encounter domestically. Just last fall, we sent a small team of people to the Philippines and India to follow some food product shipments through the marketing system. They followed experimental shipments and also some routine shipments through the distribution channels into the interior of the country, even to the point of getting into the kitchen in the school lunch program in India.

The team report might be of interest to you. It is entitled, "The Evaluation of Dry Cereal Shipments to

India and the Philippines," and was published by the Agency for International Development, Office of Food for Peace. It has some illustrations which show the problems. Observations which were made about insect infestations and the performance of packaging are discussed. Recommendations are made for solving some of these problems.









*Section V*

**PROBLEMS AND PRIORITIES IN  
MARKETING—REGIONAL EXPERIENCES**

**Africa**

*William Jones  
Stanley Peek  
James Coddington*

**Latin America**

*Gerard Horne  
Donald Fiester*

**Near East/South Asia**

*O. L. Mimms  
Richard Ward*

**East Asia**

*Edward Schiffman*

**Vietnam**

*Myron Smith*

*Dr. Jones is director of the Food Research Institute of Stanford University. He has served with numerous advisory bodies in agricultural economics and as President of the African Studies Association and the Western Economics Association.*

## AFRICA

*William O. Jones*

My interest in agricultural marketing in tropical Africa was stimulated originally by a simple desire to appraise the cost-price relationships which faced farmers who were being asked to increase output for sale by increased inputs and new techniques. It was probably first aroused by my 1953 visit to the research station at Gandajika in southern Congo; there, fertilizer trials were proving economic under the rather special price and cost conditions which then prevailed.

I found many opinions and allegations about imperfections in farm marketing, ranging from concern over the Africans' naivete to charges that lack of farm storage facilities forced farm surpluses onto the market immediately after harvest at ruinous prices. On the other hand, there was impressive evidence that African food supplies had increased with population at a time when export crop production was growing steadily and large numbers of Africans were being drawn into non-farm employment.

This seemed to imply rather clearly that, in many African countries, internal marketing systems for staple foods were working well enough to call forth increasing supplies as they were needed. Beyond that, however, very little was known with any degree of assurance. Traders might be exploiting farmers, consumers, or each other; prices might behave erratically from day to day, week to week, or month to month; surpluses might exist in some places simultaneously with severe shortages elsewhere; storage might, in fact, be short and fluctuations in seasonal prices excessive; market demand might be insufficient to support smoothly operating distribution systems; and farm-to-consumer price spreads might be exaggerated by long marketing chains with redundant intermediaries. There was no firm evidence.

### PROBLEM STUDIED

We set out to learn more about African food marketing. With AID assistance, we were able to examine carefully, over a period of 14 to 17 months, the operation of marketing systems for major staples in five areas of tropical Africa: the food supplying hinterlands of Freetown, Nairobi, Ibadan, Enugu, and Kano.

We found many of the allegations about imperfections in the marketing systems not to be borne out by the facts. Storage costs and seasonal price movements, in general, appeared moderate. The farmer's share of the consumer's dollar seemed high. The marketing chain was short, probably too short, in fact. Trading margins, so far as we could determine then, seemed reasonable. Imperfections in the dissemination of market information, great variation in units of measurement, and lack of recognized quality standards and formal contracts did not seem as crippling as we had expected.

One glaring deficiency did show up in all of the studies, and that was the general absence of wholesalers with capacity to trade in the staple commodities on a national basis. This resulted in mal-allocation of supplies over time and space. This situation is both consequence and cause of the very imperfect economic network which should bind a national economy together. It is partially a consequence of cultural fragmentation of the African countries and partially consequence of government's attitude toward commerce. It is self-reinforcing; imperfections in allocation of staples over time and space make the rural producer reluctant to rely on the market for much of his stable food requirements. Consequently, in many places, the market is too thin to permit it to operate efficiently.

The tendency for farm families to eat what they grow also reinforces the customary practice of storing cereals on the farm. The consequence is that the magnitude of marketable supplies is extremely difficult to determine until they are actually offered for sale, which may be near the end of the crop year.

The general recommendations which come out of the study are principally concerned with steps which the national governments might take to help wholesalers develop national systems of trading relationships.

### SCOPE OF STUDY EXPANDED

Study of the staple food marketing systems also directed our attention to much broader implications than those for increased technical efficiency and physical out-

put of African farms, with which we had first been concerned. These added implications deal with economies of specialization in agricultural production arising from natural comparative advantage, division of labor, and external economies of scale in marketing. But they also involve the ways in which an agricultural marketing system can facilitate or impede development in the non-agricultural sectors, particularly in manufacturing.

In Sierra Leone, the sample survey of agriculture taken in 1965/66 reported that only 5.5 percent of the total rice crop was sold, although rice is the preeminent staple. It also noted that about half of all domestic rice marketed came from the area of greatest concentration of licensed rice dealers. It is worth investigating whether the paucity of licensed dealers in other rice-growing areas has limited the production for market, and whether government's efforts to increase rice production might better be concentrated in areas already served by a well-developed market mechanism.

The Western Nigeria study points to somewhat analogous possibilities. Oyo Division appears to have become the major supplier of yams, gari, and maize to the large Ibadan market, although it lies far outside what might have been thought of as the normal Ibadan hinterland. Couldn't there be an opportunity here for government to stimulate further development of this potential bread basket to enable farmers to the south, who already purchase more than one half of their staple food requirements, to concentrate more on production of export crops in which their comparative advantage is greatest?

This sort of specialization not only lowers production costs but, by permitting the farmer greater choice in consumption, it also increases his well-being and his effective demand for non-agricultural goods and services.

The importance of scale economics may be illustrated by the experience in Sierra Leone when foreign traders were expelled from the rice trade. This "big" trade had carried with it a "little" trade in peanuts, which was not large enough to support itself. In the period after the eviction of the foreigners, who had traded nationally, the peanut trade appears to have more or less fallen apart. Something similar may have happened in Uganda, where government control of the "big" cotton trade probably inhibited experimentation in other "little" trades.

The direct impact of marketing policy on manufacturing is best illustrated from Kenya, where there are said to be from 2,000 to 5,000 small water-driven corn mills. It might be expected that these would provide a breeding ground for small manufacturers and for entrepreneurship, as they did in Western Europe and the United States. That they have not must be due in no small part to governmental regulations which forbid such millers to deal in corn or cornmeal, or even to take a share of the product as payment for grinding.

I suggest that the problems of agricultural marketing which really require research are not the mechanical ones of how to cut transport costs or how to store and process the great increases in yields which may or may not result from the "green revolution." Rather, major research is needed on how to best help the marketing system perform its preeminent task of allocating scarce resources and how to realize the greatest improvements in the productive power of labor (the effect of the division of labor).

#### *Stanley Peek*

I am not inclined to question the principle of comparative advantage as a basis for considering alternative production patterns. I would, however, direct some comments to the question of providing adequate food supplies for domestic consumption in West Africa.

Present information indicates that beef, poultry, eggs, milk, and beans are examples of nutritionally superior foods with thin markets at present low levels of income in West Africa. A recent Michigan State University/AID study (*Strategies and Recommendations for Nigerian Rural Development*) has shown that, even at lower prices, increased consumption has been out of reach of the masses. The solution, according to this study, is to develop the production of cash crops by small holder-producers and, indirectly, by urban dwellers. Such a program requires better administrative arrangements, transport, marketing, processing facilities, extension, training and research organizations, and credit institutions. As incomes are increased, there will be a market for more foods and nutritionally superior foods.

The question remains, will present markets in West Africa provide adequate incentives for increasing production of foods? It seems doubtful for the present. Although the general goal of increasing food production seems desirable because of the need to save the foreign exchange used for food imports and because of declining per capita food crop production, the determination must be made, for any given area, whether food crops or export crops are most profitable for the farmer and the nation. Among the reasons given for lagging food crop production is the "diversion" of many farmers towards the production of cash crops for which there is an assured market and income.

The major concerns in Africa are to identify and verify food marketing priorities and to determine ways and means to grapple with and resolve the marketing constraints to production. I believe this is primarily a question of effective demand; the poor need hard money to satisfy their hunger.

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*Dr. Peek is an Agricultural Officer with AID. He has worked as an advisor to agricultural education, as a rural development officer, and as a food-agriculture officer. His area of specialization is Africa.*

*James Coddington*

There are a number of areas for assistance in marketing which merit additional consideration with regard to West Africa. First, pricing policies are not always based on sound economics and, where they are, implementation is often faulty. In some places, minimum support prices are established far above the world market and also above the level which can be justified in domestic markets. It becomes impossible to implement such a policy. In other places, the price support level applies only at the seat of the government and does not filter out to the production areas. In addition, many developing countries have been unable to fund a price support program on a permanent basis. This has been due, in part, to inadequate planning and design and, in part, to ineffective operation.

Second, milling and storage facilities are either lacking or inadequate. The mortar and pestle is designed only for home use and cannot be made to operate on a commercial basis. On the other hand, large commercial mills,

such as those found in the developed nations, are impractical in the local context.

Third, there are no market outlets developed for grain in many producing areas. Although the French have co-operative marketing associations for peanuts, no similar organization is operative for grain.

Finally, market development projects have often been operated by foreign specialists who ignored the impact of such a project on existing institutions and also the ability of both the public and private sectors to make the project a success. Too often market development projects have endeavored to impose a market structure on a developing country which is suitable only for a fully developed country.

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*Mr. Coddington is Chief, Grain Division Program Analysis Group, USDA Consumer & Marketing Service. In 1968 he participated in a USDA/AID study of rice production and marketing problems in West Africa, and previously worked as an FAO Marketing Economist in the Far East.*





*Mr. Horne is Food and Agriculture Officer for the Regional Office, Central America and Panama Affairs, U. S. Agency for International Development. He has also served as Deputy Chief, Rural Development Division, AID.*

## LATIN AMERICA

*Gerard Horne*

To generalize about almost any topic for Latin America as a whole is usually hazardous; generalization about political, social, and economic factors which must be coordinated with overall agricultural development throughout Latin America is often particularly hazardous. Recognizing that there are notable exceptions in many of the countries, some observations may be made which are generally true in Latin America.

### MARKETING CHARACTERISTICS

Almost all of the components of the marketing "system" for almost all crops grown in the region are totally inadequate for self-sustaining and profitable enterprises. That is, the harvesting, handling, packaging, storing, transporting, and distributing services and facilities for agricultural commodities are substantially below the requirements for a modern marketing system. This is particularly true in the case of the non-traditional agricultural exports (all crops except bananas, coffee, cotton, and sugar).

The production component for non-traditional agriculture in Central America is more advanced than distribution components of this system. This is not to say, of course, that production is all it should be; it is not.

The production component of the present agricultural system in Central America has a great deal of elasticity. When the prospects for profit appear to be high and risks reasonably low, producers respond promptly with substantial increases in production. Conversely, when it seems that prospects for profit are low and risks high, production declines sharply. The pattern of comparatively large increases and decreases of production is notably characteristic of the basic grains (corn, rice, and beans).

Traditionally, production exceeds effective demand throughout the region. In the small village markets, as well as in the large central markets, modest surpluses of most agricultural commodities can be found throughout the year. The limited purchasing power of the vast majority of the population (*vis-a-vis need*) is almost always the over-riding factor accounting for these surpluses. Pending better assurances that there will be a market for his products, the producer is reluctant to increase his production and risk his limited capital beyond the traditional levels. Many producers can recall instances where comparatively small increases in production have depressed the market to levels where the costly additional

inputs, such as fertilizers, are not recovered. In most cases, inadequate storage, preservation, and transport facilities also limit marketing alternatives for the producer.

Additional domestic and foreign resources, particularly in the private sector, are available for investment in agricultural ventures, provided such investment opportunities offer more profit and/or less risk than alternative opportunities such as urban housing, industry, or service enterprises. Prospective investors appear to be especially interested in post-harvest enterprises (refrigeration, packaging, brokerage, etc.).

Inefficiencies, low productivity, and limited managerial skills usually more than offset the relatively low labor costs in Central America. Moreover, limited effective demand in the domestic markets and other critical variables tend to impede effective use of modern technology/management at the present time.

Many of the present problems in developing the agriculture sector in Central America, including marketing deficiencies, are complicated by even greater deficiencies in "management." Many of the readily available production and marketing technologies cannot be used effectively because of lack of skilled managers who can assemble and operate the several components of the complex "systems" involved in the agriculture sector.

For example, a delay in delivery of crates in a recent trial export shipment of cucumbers caused a 40 percent rejection in export-quality product. A flooded domestic market of non-exportable produce caused a collapse in prices. Lack of proper stacking pattern in a refrigerated load caused substantial loss in marketable product. In short, every step in the seed-to-consumer process must be carried out at the proper time and in the proper manner, including the sub-components such as packaging, transporting, etc., lest some seemingly insignificant action jeopardize the entire effort. The near-tragedy in one Apollo moon-shot was a dramatic example of the consequences of failure in a small component of a complex system.

In many instances, a delay or deficiency in some stage of the agricultural system is even more critical than one involving an industrial enterprise. Delays or errors in planting time, application of fertilizer or pesticide, or failure to refrigerate a perishable product are usually not correctable in subsequent stages, whereas errors in some stages of industrial production might be offset by overtime efforts or use of other additional resources.

Accordingly, a "systems approach," or careful attention to *all* of the stages and operations of the entire process, is a must for a sound agricultural development program. I would urge the participants in this seminar, who are bringing much needed attention to "marketing," to also give thoughtful consideration to gearing the marketing functions to all the other functions which make up the complex package or system of agricultural development.

Ordinarily, the very broad regional or national level problem areas such as policies, plans, strategies, research, and training requirements, which are important long-term considerations, do not come to grips with the more practical and pressing, immediate day-to-day operating needs which producers and other participants in the agricultural system must have to survive. I hope that out of this seminar will come a series of follow-up actions which will concentrate on urgent and priority problems confronting domestic and foreign entrepreneurs, prospective investors, and government officials. In turn, these actions will provide the basis for realistic policies, plans, research, and training.

Latin America, and perhaps other developing countries, can ill afford endless esoteric studies, research, training, and meetings on marketing or other components of the larger and more complex agricultural system. While it is true that more and better information would be helpful, an even greater need is to make effective use of the knowledge and resources already available. It has been my own experience in Latin America that most failures in agricultural projects and programs have been due to inability to make timely and proper use of already available knowledge and resources, rather than unknown or unavailable information and resources.

#### *Donald Fiester*

This conference has certainly pointed up several very important things which must be kept in mind in future marketing operations in Latin America. First is the complexity of marketing problems and the interrelationships between marketing, production, and other facets of the agricultural business which we are trying to support in the LDCs.

Second, marketing work should be relevant to the local situation in the LDCs because of their diversities, the differences in their stages of development, etc. There is a need to understand local situations and local marketing systems — their constraints and advantages — before one tampers with them. Otherwise, very serious repercussions may result. I do not think it can be emphasized enough that technicians should understand local language in order to get some of the nuances which might otherwise escape them.

Third, USDA technicians and those from other organizations should be concerned with innovation and adaptation. They should also see the broader aspects of their work and the interrelationships between agricultural systems at national, regional, and international levels.

Fourth, there is a need within AID, hopefully with the assistance of USDA, to integrate marketing (and the USDA marketing efforts) with other technical assistance projects in agricultural production, particularly agricultural research. Hopefully, at some point in time, integrated production-market systems might be offered to the field missions as a package rather than elements to be picked up piecemeal.

I would suggest several priority activities for Latin America:

- We should seriously consider the creation of a marketing research network. This network probably should be based on hemispheric or geographic lines, but this would not necessarily be the only consideration. I would hope that USDA and others in the marketing field would look at this possibility, because marketing affects a country's balance-of-payments and its basic economic relations with other countries. And a marketing research network could contribute to an understanding of these problems. Serious in-depth research of specific local and national market cases must be undertaken, especially because of their broader implications and the possibilities that these research findings can help create broad principles which might be applied in a much wider context than just the local situation.
- Develop local and regional market information networks. USDA has done some useful country work on market news services in Brazil, Peru, and Colombia. A network now becomes possible.
- Respond to AID assistance on specific marketing problems. There is a serious need for understanding marketing problems in specific areas. I would hope USDA would produce a statement of their possibilities of providing assistance (their constraints too) so missions have a clear idea of what they can use from USDA.
- I also propose that USDA begin to work on a series of marketing handbooks which will be useful for people in AID missions and country institutions concerned with marketing problems.

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*Mr. Mimms has a long record of government service, both in the U. S. Department of Agriculture and with U. S. Agency for International Development. He is presently Chief of the Agricultural Branch, Bureau for Near East and South Asia, AID.*

## NEAR EAST/SOUTH ASIA

*O. L. Mimms*

Agricultural marketing problems in Near East-South Asia are so similar to those already mentioned for Latin America and Africa that we will save time by only highlighting them.

Basically these problems existed prior to the "green revolution," but are now becoming more acute; some of them are chronic. Among these are:

1. Undue seasonal price variations;
2. Constraints posed by an abundance of complex governmental regulations;
3. Inadequate private enterprise participation;
4. Difficulties in implementing inter-regional trade, as among the various states of India and between East and West Pakistan;
5. Antiquated systems of storage, transportation, processing, and financing;
6. Inadequate grades and standards;
7. Imperfect information in the marketing system for government officials, farmers, and private distributors; and
8. Inadequate awareness or recognition of the nature and significance of problems in marketing on the part of LDCs as well as donor agencies. (To date most of our efforts have been production oriented.)

While not purely marketing, the following two factors will have increasing influence on the efficiency of marketing:

1. Alternative land use considerations, i.e., producing according to effective market demand; and
2. Agricultural policy formulation as a constraint to market development.

Marketing problems need to be considered from a commodity basis (i.e., cereals, livestock, fruits, and vegetables) and from an institutional basis (i.e., credit, transport, processing, storage, assembly, etc.).

Marketing problems need to be considered in the broadest context; often the constraint to more effective marketing may be outside the context of marketing in its narrowest context. We have already mentioned alternative land use and overall policy formulation as important factors for influencing production and marketing.

In both Pakistan and Turkey, production and marketing efficiency should be considered along with alternative land use. A rough calculation of the internal floor price of wheat indicates approximately \$2.70 per bushel in West Pakistan (calculated at 17 Rs per 82 pounds; \$ = 4.8 Rs) and \$2.40 in Turkey (calculated at 90 Kurus per kilo, 9TL = \$1.00). Even if these currencies are discounted by about 1/3 (i.e., 7 Rs = \$1.00 and 12 TL = \$1.00), the internal floor price of wheat is still in excess of the world market price, especially if either country has to ship cereals for any distance. Thus, if Turkey and Pakistan are to compete for world wheat markets as they

become self-sufficient in food cereals, they must improve production efficiency or, alternatively, either seek other uses for surplus wheat land or perhaps find uses for wheat other than direct human consumption.

*Richard Ward*

In 1961, AID made a loan to Turkey of 20 million Turkish lira to be used for the promotion of exports of fruits and vegetables. For four years this loan was used back and forth and partially used up.

The realization finally came that we needed an organizational form in order to increase production and develop an export market. Turkey has a very poor balance of payments and is highly dependent on foreign assistance. Turkey's imports are valued at about \$800 million, while exports are about \$450 million. Of the latter, about 81 percent are agricultural products. After examining a number of alternatives, we decided on the export of fresh fruit and vegetables to the European market. The market there is around \$6 billion for edible products.

Turkey and AID started at the farmer level, giving attention to the need to instill a quality-consciousness. At that time, the marketing was done by 21 organizations, most of these government organizations; an organization is now established in the Ministry of Agriculture for marketing, and the 21 organizations have been cut to six.

In 1964, Turkey exported \$2.2 million worth of fresh fruits and vegetables to Europe. Last year, in 1969, she exported \$21 million. This \$2.2 million grew at about a million and a quarter a year until last year. Then it went from \$8.7 million to \$21 million (from 1968 through 1969). This year there is a target of \$35 to \$40 million.

How did this happen? First, and most essential, an interest was created. CENTO (Central Treaty Organization) sponsored marketing seminars and an interest was generated in Pakistan, Afghanistan, and Jordan. However, we came to the point where we had to concentrate, and Turkey was selected for the AID effort.

We concentrated on two commodities, one being satsuma seedless mandarins. In 1965, we began to push this, exporting about a thousand tons through a small cooperative. This cooperative bought other cooperatives, creating the momentum for further expansion; production was increasing 12 1/2 percent per year. Other co-ops were involved.

Transportation was essential, so we helped organize groups for the purchase of trucks and trailers. Four large

organizations — one in each of the large growing areas — were established as stock companies in the private sector in January last year to produce and export fruits and vegetables. These four corporations then organized themselves into a marketing clearing house in Ankara, still in the private sector. In this marketing clearing house, we have been able to bring in 200 refrigerated trucks and vans.

Then financing became a problem. We tried every place; local banks and AID just did not want to put any more money in it. Finally, we encouraged the government to set up loan funds at a reasonable rate of interest for this kind of operation. For example, the standard interest rates were 10 percent, but the Turkish Government set up a loan fund at a 5 1/2 percent interest with no carrying charges. As a result of this help, the four corporations which started last year have expanded. Their stock values a year ago were about 5 million Turkish lira each; this year they have doubled their stock values and they are all doubling their production and their procurement of produce.

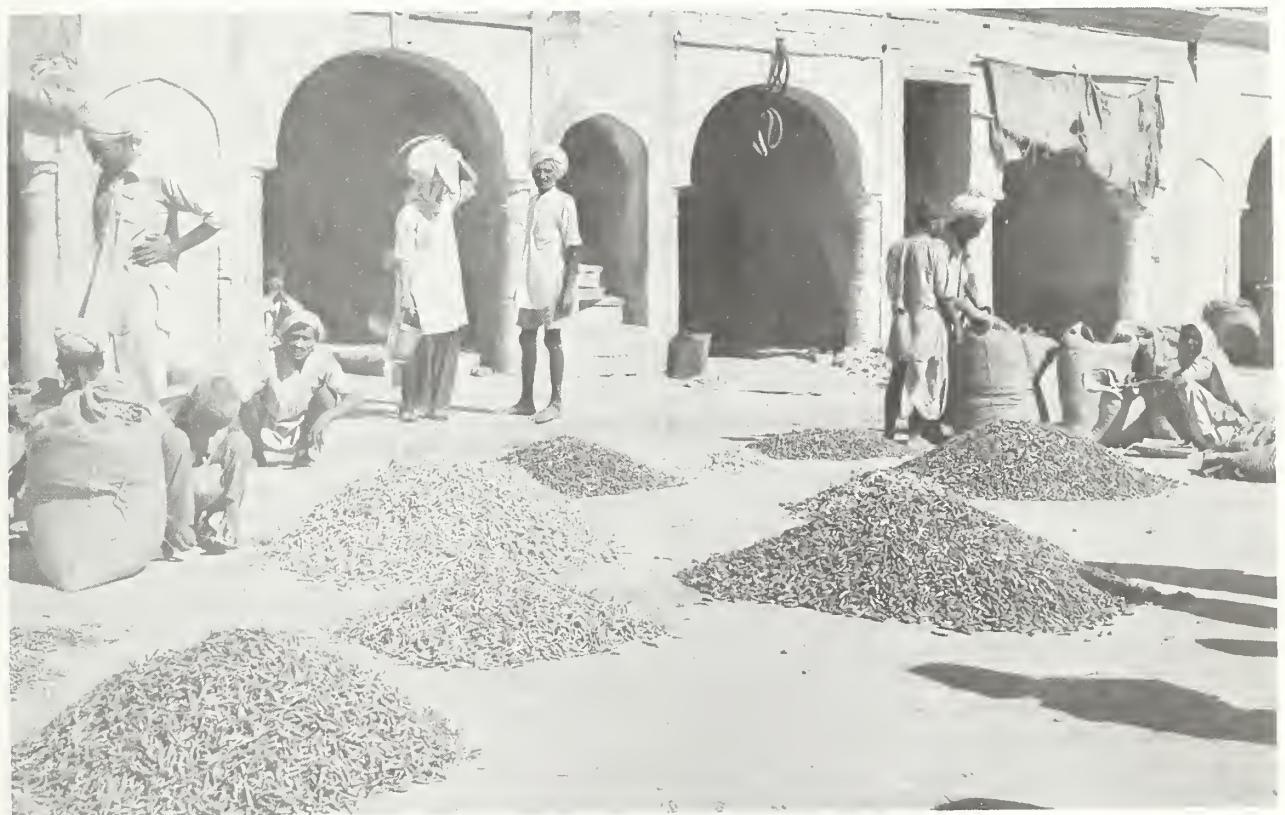
One other thing that went into this was a government agreement to back the contract purchasing method; we have found that we can contract for all we want through these organizations and they do deliver to the exporters. The reason? The European price is a bit higher than in Turkey and this is putting an extra dollar or so into the farmer's pocket.

It will be necessary next year to have some reorganization. All of the companies this year have made money with the exception of one, the poorest operated and the poorest managed. But we know that within the next two years, when exports reach the \$35 million mark, we are going to need a lot more inputs than we have now. There is need for a more modern marketing terminal and, due to different kinds of transportation, we are now hiring trucks from Yugoslavia, Bulgaria, Iran, and even as far away as Germany.

In conclusion, we are going to need help in management in Turkey, and I say this also for Pakistan, Iran, Jordan, and Afghanistan. Financing? I do not think that is as serious a problem as many imagine. There is money there. Of course, some foreign exchange is needed too, but this will be earned by developing exports of the product. But, again, management help is vital.

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*Dr. Schiffman has been with the government since 1941, serving initially with USDA and more recently with AID. His field experience is principally in East Asia, and he is currently an International Cooperation Officer.*

## EAST ASIA

*Edward Schiffman*

As the "green revolution" progresses in areas where rice is the staple food and a key factor in overall country economics, producing countries become increasingly concerned about U. S. policies and their effect on the world rice market.

Taking rice as a specific case in point, there has been a continuous flow of complaints from countries like Burma and Thailand about our PL 480 program. My guess is that the Philippines will join the group having virtually achieved self-sufficiency and probably will rapidly be able to have an exportable surplus. They, too, have been increasingly concerned with regard to U. S. policies. The feeling is that U. S. policies may cut them out of what might be a legitimate market for their exports.

A number of East Asian countries are getting into corn. Thailand and the Philippines are heavily involved. Here, again, we have an export program tied in with PL 480 which many of the countries in East Asia feel is

heavily subsidized and, hence, contrary to our adherence to "normal marketing." They feel pushed out of potential markets. So, if one were to single out a problem, it would be to study the impact of our trade policies on development efforts in the developing countries.

Our technical assistance effort, until recent times, has been geared to some extent to our own agricultural surplus problems. For example, we have been reluctant to provide technical assistance in the field of cotton production. For a long period, our policy seemed affected by our surplus situation here in this country as well as our interest in helping LDC agriculture. One cannot, therefore, examine this marketing problem in East Asia, especially where there is some competition with our domestic producers, without taking a look at U. S. trade policies in agriculture. This may be more important in solving their export marketing problems than any other action we may take.

*Mr. Smith is a soils scientist. Formerly with USDA, he began his international development career in 1962 as an AID advisor in India. Since 1966 he has been serving in Vietnam as agricultural advisor.*

## VIETNAM

*Myron Smith*

The situation in Vietnam presents, as you would imagine, a little different picture. However, I can state that it reaffirms the resourcefulness potential that exists in a profit-oriented, private-trade community. The harassments and risks which exist there rival, and probably exceed, those in most areas of the world. Nevertheless, the major part of marketing, whether it is moving production inputs to the farmer or products to the city, has been in the hands of private enterprise except for one big commodity—rice.

Rice was brought into Vietnam because, for most Vietnamese, the price of rice determines, in large part, their cost of living. The policy concerning the marketing of rice had a very great influence on agriculture production, partly because the policy was developed on a political-economic base. The government was concerned about unrest in the city if rice prices rose too high. But we assured them that the answer to the political unrest was one of sufficient production in-country and adequate supply, and that rice prices could be controlled by the government's stocks of rice. The private trade was afraid to move. Even when the trade was given an opportunity

to market rice, they were afraid to move because the government held such large stocks. They did not have assurance that they would not be subject to severe losses.

There seems to be some other experiences we had in marketing commodities such as vegetables and other products in which the government can play the role of "pump primer" by providing incentives to producers without having prices for consumers increased. We might have to start the action, because the producers lack confidence in their ability to market increased production. The government, as the purchasing agency in this case, encouraged the farm organizations to engage in more mung bean production for market. Then, as the purchasing agent, the government encouraged the movement of mung beans from the areas of local production into the market. The effect has been no change in the consumer price because the government has held this down, but there has been about 60 to 75 percent increase in the returns the farmer receives. This is a case where "pump priming" took place; public funds went into a producer organization to help establish better distribution.





*Section VI*

**APPROACHES TO TECHNICAL  
ASSISTANCE IN  
MARKETING**

*Erven Long  
Lloyd Holmes  
Charles Slater  
Robert Johnson  
William Johnson  
Richard Reuter  
Benjamin French  
Douglas Caton  
Lyle Schertz*

*Dr. Long was a professor at the University of Wisconsin from 1947-50, and department head from 1950-56. He has been a group leader in India (4 years) and a consultant to the Belgian Congo. Within AID, he has served as Director of the Agricultural Service, and Associate Assistant Administrator of the Bureau for Technical Assistance.*

## APPROACHES TO TECHNICAL ASSISTANCE IN MARKETING

*Erven Long*

The nature of my comments is to caution against our rushing too rapidly to judgment about marketing problems.

I am pleased to see this USDA/AID marketing contract emerge, particularly in this specific character: mainly trying to work in specific countries on specific problems to make the kind of analyses which are relevant to their specific data, factor costs, and so forth. There is a lack of knowledge on which to base decisions about marketing and the means to improve its performance.

In addition, as we work with greater fervor and enthusiasm on marketing problems, we should not over-estimate how badly the marketing systems of many LDCs are. When you price them at the real factor cost, it is pretty hard to beat the egg woman who goes to the village and brings the eggs to the consumer within a few hours after they are laid. She brings them on her head and charges about 10 percent mark-up on the cost. She is making, maybe, two rupees a day and her opportunity cost for that kind of managerial and labor skill is perhaps one rupee a day. It is just hard to beat that kind of a system.

I recognize that marketing must go beyond this if burgeoning city populations are to be fed. Still, it is very easy to assume that, because standards are not always as they are in this country, things are not packaged as well and there is physical wastage.

I saw a Brooking's study one time about the feeder roads in India. This technical assistance project was to help the Indians recognize how important this problem was. It would cost us something like \$200 million, which just happened to be our total appropriation for worldwide technical assistance that year. Investments in railroad systems, ports, transportation systems, and roads are enormously costly. Advice to countries about this ought to be based on thorough analysis of the relative factor costs and alternative uses of those investments for other purposes.

Finally, I think we should note that most forms of marketing investments which are usually discussed arise out of surplus production. They need not be, and proba-

bly should not be, so oriented. There is a positive, productive side to marketing improvements, not only in terms of producer interests, but in terms of overall economic development in the country.

*Lloyd Holmes*

This seminar has provided a useful forum for discussing marketing of food in LDCs and creating a dialogue between diverse specialists in agricultural development.

The papers and discussions clearly demonstrate that marketing problems are worldwide. Every country also has its own culture, its socio-political and economic institutions, and its problems with the allocation of scarce resources to obtain maximum benefits for the country. We must recognize differences in leadership, economic resources, and cultural backgrounds and learn to work within the existing organizational and institutional setting if changes are to be made.

The purpose of this seminar has been at least two-fold: (1) to identify marketing problems by specialists who have long marketing experience in various regions of the world and (2) to identify priorities for the solution of these problems. My comments will be addressed first to the manner in which priorities may be set and then on specific points which I believe merit early attention.

When one thinks of priorities, he must also decide on "whose priorities and objectives." How he approaches problems and the kind of techniques employed in solving problems will largely depend on who establishes the priorities. If the local country establishes a priority for building farm-to-market roads, resources will be channeled into road building. It will take a real selling job to change this set of priorities because the local people have *involved* themselves in the project.

*Involvement* cannot be ignored in setting priorities. This *personal involvement* and *commitment* by recipients, donors, and administrators needs to begin during the earliest planning of any project if good results are to be expected. It is not enough for technicians to identify problems and hand out recommended solutions for the LDCs to implement. Far too much effort has gone into this kind of technical assistance and too little into joint

target-setting between technicians and those in position in LDCs who can make needed changes or do something about allocating resources to attain desired results. We need to establish as one high priority that of listening to what the LDCs say they want and then building on the institutional and cultural foundations they have. I do not believe we need to change an entire marketing system or start a new system in any country. We must help LDCs "adapt" existing systems to improved methods to obtain greater efficiency in marketing.

These are the priorities I see:

1. Compile a list of marketing problems as identified by foreign technicians and LDCs. We have done some of this during this seminar. Proposals on information, education, and research were clearly high priority. Such a listing of priorities provides a foundation for the new program effort in marketing.
2. Determine if solutions applied to solving marketing problems in one country or area are *transferable* to other areas *en toto* or with modifications. We may be able to implement recommendations to solve problems quite easily in one country, but can we employ the same techniques in other areas of the world? Case studies and pilot programs can be employed in determining transferability.
3. Determine what kinds of techniques and technicians are likely to be effective in technical assistance efforts and, then, match people with problems and programs. One technician may have the best ideas and knowledge available anywhere for solving a particular problem, but unless officials in LDCs believe in the person or the person "sells" the idea, it likely will never be adopted. We need to learn how to work with the institutional and cultural establishments, politicians, and lay leaders and help *them generate* ideas which would benefit the country if adopted.
4. My last point is the need to clarify the term marketing for those we are seeking to help. Marketing is not only a price problem or a price stabilization program. It is all the services and processes involved in getting farm products from farmers to consumers: production and market intelligence, transportation, storage, risks (and this is very important where government plays a role in stabilizing prices because of fear by private investors to build facilities, etc.), processing, and distribution. A particular country may have problems in many of these areas. I doubt if we will succeed by trying to change all of them at once. LDCs do not have the manpower or capital to manage or finance such great changes, nor do we.

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Mr. Holmes is an agricultural economist with the Agricultural Stabilization and Conservation Service, USDA. He has served on a resident AID-USDA PASA in Latin America, working in agricultural marketing.

Charles Slater

I would like to suggest some specific tasks for USDA:

1. Diagnostic studies of marketing channels treated as systems, as sketched out by my colleague, Harold Riley, could be of great value. They are practical and they are the kinds of things which can be effectively carried forward by local technicians with some guidance and cooperation from a USDA/AID contract. They could produce new information which would help all of us concerned with market decisions.
2. We could foster consumer-oriented, urban, retail-marketing institutions. These are institutions which are dedicated to lowering prices and then, using economies of scale, to gain improved coordination of their supply back through the marketing channels. These are the kind of private marketing institutions which can be efficient in many communities. I would say that they can be of value in Latin America. I'm not certain of their usefulness in other areas of the world.
3. Improving the communication channels through market news systems and consumer education programs would reduce the risks and uncertainties



of market participants. The information systems should serve not only the farmers but the intermediaries who now either capture information and keep it to themselves (and thus exploit it) or, lacking it, have to raise their prices as an insurance against the risk to their capital.

4. USDA should foster input marketing channels. We have not concentrated on that in this seminar, but I think that starting at rural marketing centers and working back to the city is just as important as starting in the city to work back to the rural area when you are concerned with the inputs, as opposed to the outputs, of the farm system.

These four tasks can be carried forward if we bear in mind that marketing starts at the consumer and works back. It does not start with the concern for the producer alone. If there is a single defect in the designs most have talked about here, it is the orientation of trying to help the farmer. We're trying to help the consumer as well! And that's quite a different thing.

In the process of helping the consumer, we shift the distribution of income. This, I think, can be thought of in a theory that is consistent with the Keynesian doctrine of macro-economics. If we accept the points

made by Mr. Horne that, in Latin America, there is some idle production capacity and hoarded resources in the marketing channels, this is a symptom of the macro-economic, underemployment phenomena characteristic of more developed communities. If we could start with the urban consumer and reduce the prices which are charged, work back up the channels with these reduced prices, and then utilize increased scale of operations to increase the output of the system, we can expand market participation. This is not an easy task.

There are several policy problems which need attention if the developing countries go in this direction. To gain scale means cutting out small middlemen. Cutting out small middlemen causes all sorts of trouble up and down the line. In the aggregate, they are politically potent people. The answer is, I think, to phase the economies of scale so they fit the society.

In Puerto Rico, many small retailers became beer retailers rather than grocers and they were allowed to sell rum and beer by the drink. Thus, they hardly noticed that Pueblo supermarkets took over 40 percent of the retail sales in San Juan; they were busy wringing out the bar rags and making money selling beer. We need to think of transitions of this sort to assist in the transition toward larger dealers and economies of scale which are enjoyed in the urban centers.

A second policy problem is that the increases in real income must include a redistribution of income to the lower sectors of the society. This is an alternative to political revolution but not to counter-revolution. And it seems to me that counter-revolution is the more serious threat to our economic development programs; the rich



resist efforts to redistribute income to the low income people. Lower prices are not necessarily attractive to the wealthier members of the community.

Another policy problem is that lower prices and more dependable demand cut out high-cost, small operators in the farm sector as well. One solution may be to explore more fully the suggestion which my colleague, Professor Owen of the University of Colorado, has put forward; namely, the recognition of a two-part rural economy — a market sector which may be larger in scale, and a subsistence group of farmers who have a different social and economic need. The recognition of these two elements in the rural area, rather than treating the entire rural community as a single entity, may be a necessary step.

Finally, I'd like to second the suggestion which has been made that regionally focused actions may be able to help us further. I am appreciative of the similarities which do exist, but concerned also that the dissimilarities between regions are real.

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*Robert Johnson*

I am not an agriculturist; however, I have had a continuing and close concern with some of the programming and administrative aspects of these programs, and in our own bureau, have some very vital concerns in which the USDA is involved. Here are some priority problem areas under the USDA/AID marketing contract as we see them for East Asia.

First, in our country and regional programs we are increasingly aware of the systems aspects of agricultural programs. The marketing system should be studied as part of a commodity system. We're increasingly concerned with the interactions which take place between these systems and the further interactions of the food system within the country's total social and economic development.

Secondly, I think there is a great deal of research to be done on implications of policy; actions taken at a particular point in an agricultural system have implications which go beyond that. We had a meeting recently in Hawaii. Milo Cox and some of the others from here participated with the East-West Center staff in efforts to develop a food-system institute which would work as a catalyst and a bridge between America and Asia. One of the things which very clearly came out of it is that decisions at one point in the marketing process have certain spillover effects and linkages to the production

process and to consumer decisions. The senior Asian officials who were there were quite concerned with this problem. We are already getting feedback. The Asian Development Bank, to some extent as a result of this participation, is interested in pursuing some of these questions of national sectoral strategy in the Philippines.

Thirdly, I would underline the regional and country environment in terms of what is done. A tailor applies certain principles of dressmaking, but the cloth has to be cut and sewed to fit the particular situation; this seems to be what we face with some of the problems with which we are concerned.

Fourth, we are concerned with such issues as the rural-urban linkage, i.e., what is happening as a result of shifts taking place in response to the "green revolution." The USDA/AID marketing work should be helpful in Asia, where we have a problem with country food strategies which are linked to export and import concerns. At a SEADAG meeting last year, in which USDA, AID, and other people participated, it became very clear that there were serious questions of this kind. A country is shaping its food policies in a certain direction but, at the same time, other countries in the region are shaping theirs too, and this whole question of foreign and domestic demands are brought into play.

Finally, the question of roles for private and government institutions is one which needs further study; to some extent, this will also be influenced by a country's specific conditions. How do you get the right kinds of governmental and/or private institutional efforts to work? I am speaking here not just of organizations or formal structures but also of the policies, attitudes, and ideas. This, too, is an area which needs more attention.

I would like to comment about the issue of marketing infrastructure costs, such as farm-to-market roads. In looking at cost/benefits of different types of measures, there are some which have a number of secondary social values which, like farm-to-market roads, have more than a purely agricultural benefit to the producer. Farm-to-market roads fulfill a variety of other functions which are probably going to be very important.

One is that they open up information and communication links with the government agencies. The school is in the town. The town is where some sort of representative of the national government is likely to be. It is a place which may have values for defense purposes, for internal security purposes. In any question involving marketing decisions, linkages to a number of other factors need to be taken into account.

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### *William Johnson*

One of the important side benefits of this seminar on marketing is that it has helped us identify some important resource talent. When we undertook this program with USDA, we, as well as our colleagues in USDA, recognized that USDA did not have all the talent needed for this undertaking. And I believe we have identified some important talent, not only in marketing, but in areas related to marketing which the USDA/AID contract may draw upon.

We have identified some possible approaches from this seminar. One such approach is that technical assistance in marketing needs to be multidisciplinary. This has been brought out by the need to take into account government policies on pricing, the role of private enterprise, and policies which facilitate, rather than restrict, the movement of goods from one place to another. We in AID and our colleagues in USDA and the universities have a collective experience which needs to be drawn on so USAID efforts can be improved. Another approach suggested is that regional seminars or workshops might be a useful means of identifying and stimulating country interests in their marketing problems and in obtaining external assistance to help solve them.

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### *Richard Reuter*

My recommendation is that we sharpen the purpose of the USDA/AID marketing program. Because of our interest, some have tended to equate nutrition with a marketing program. Improved nutrition is not the purpose of the development of a marketing system, although I firmly believe you cannot have proper nutrition, regardless of government programs, until you have a viable marketing system.

The consumer is the point of the exercise. It seems to me that our marketing improvement efforts should focus on the consumer. It is not inconsistent to provide food at less cost to the consumer and greater returns to the farmer.

If the consumer does not wish to buy better nutrition, she will not pay for it. AID programs have innumerable experiences where the "good food" just did not sell and where the cost of making it widely available exceeded its acceptability.

Coca-Cola is a great marketing achievement. Question, if you will, its economic and nutrition contribution, but, in a short time span, it made available everywhere an inexpensive desired product. We might learn from this Coca-Cola story.

Innovation is resisted and the new is suspect in developing countries. Because risk spending potential is low, changes in products or marketing system patterns in the developing world are slower than in the more sophisticated economies of the world.

The private sector should be encouraged to innovate; it does not need subsidy for this, but needs a climate in which change is accepted and a climate where profit is accepted as a contribution toward development.

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### *Benjamin French*

I have been struck by the differences in the orientations and levels of abstraction of the various speakers. People who have worked primarily overseas have dealt mainly with specific, real problems within their experience, or with what they have perceived to be specific problems. The academically-oriented people, on the other hand, have tended to focus on broader policy issues rather than the daily problems of program development. This has left what seems to me to be a considerable gap. How can these different orientations be tied together to provide a more meaningful basis for examining priorities?

I would not presume to be able to bridge this gap, but I can suggest a framework for thinking about it. My frame of reference is the "systems approach." This is a currently popular term and, during the seminar, several speakers have made reference to it. I cannot help but wonder, however, if they all had the same concept in mind. I would like to outline the approach a bit more specifically and suggest how it may apply to the establishment of priorities.

C. West Churchman in his book, *The Systems Approach*, has a chapter entitled "Systems Thinking" in which he discusses approaches to thinking about problems. I suggest that systems thinking should be an important prelude to the establishment of technical assistance priorities.

Systems thinking involves several well-defined steps: (1) determine and examine goals — the real goals — and the subgoals which may be associated; (2) identify the system relevant to achieving the goals which may, in many cases, involve more than the marketing system; (3) determine the components of the system; (4) define the environment within which the system must operate, involving the factors which restrict and condition the functioning of the system; (5) define the output of the system — the measurers of performance of the system, involving multiple dimensions such as prices, production, employment, nutrition level, income distribution, and so

on: (6) determine, conceptually, the types of interrelationship which seem likely to exist among the parts of the system; (7) delineate alternative courses of action; and (8) attempt to evaluate the possible consequences of alternative actions in terms of the output and performance of the system. It may not be possible to do this with only a conceptual idea of a system, but it will at least bring out what we know and do not know. It will suggest something about needs for information and additional research.

With this type of systematic thinking — "systems thinking" — as a starting point, we should be able to do a better job in establishing priorities for technical assistance.

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*Douglas Caton*

First, I'd like to restate what is one of the purposes of the USDA/AID marketing agreement; namely, to find out, over the next year to year and a half, what the research needs are in the developing countries in order to help improve market systems.

The USDA might undertake a limited number of sharply focused studies using appropriate analytical methodology to obtain information on the strengths and weaknesses of the existing marketing systems. They may also study the ability of these systems to expand or adjust to what may lie ahead in the development process and in population growth. Such studies should take into account both domestic and export market dimensions and the components of marketing, both organizational and functional. Insofar as possible, the USDA/AID marketing people might look at the market environment and the so-called input-output relationship of production, marketing, and demand.

I suggest also some possible approaches: 1) the use of regional and area workshops and seminars to organize U. S. brainpower in support of local institutions. This would create the necessary knowledge base which is going to be needed for improved marketing efforts in the future. 2) the use of new support instruments such as international marketing institutes and the possible development of regional research networks in post-harvest handling and processing of agricultural commodities.

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*Lyle Schertz*

The discussions at the conference have underscored the importance of government policies on marketing. Comments, particularly by Jones and Mellor, point out that policies can have a great influence on the efficiency of the marketing system, investments in marketing facilities, and the competitive relationships among marketing entities.

The discussions, however, have been less clear on how technical assistance might contribute to bringing about adjustments in policies related to marketing. My hope is that additional attention will be given to this important question in the AID/USDA work.

Technical assistance can make an important contribution to policy by providing descriptive market studies. Much more needs to be known about "who does what to whom, how often, and for how much," in the marketing systems of developing countries. An understanding by those providing technical assistance, and, most of all, by people in the developing countries as to how their marketing systems really function is important. But perhaps of even greater importance is an understanding of why they operate the way they do and of the linkages between government policies and the functioning of the marketing system. If I have any criticism of the marketing studies which have been done in the developing countries, it would be that, in describing the marketing system, the role of policies in shaping that system was often overlooked.

I emphasize this even though U. S. leverage for direct policy persuasion via bilateral aid programs is, in many cases, lower than it has been in many years. But, in my judgment, this situation does not diminish the need for giving attention to the public policy side of marketing. If we are to be effective with technical assistance, we must understand these relationships. Failure to do so can lead to capital assistance projects to alleviate problems which could have been corrected with policy adjustments by the developing countries.

AID has provided useful assistance to developing countries for improving technical functions of the marketing system. For example, work in market information, crop reporting, warehouse bonding, and grades and standards can have high payoffs in terms of improving the efficiency of the marketing system. These areas are less sensitive than some policy questions and should be increased because of their potential near-term payoffs. More attention might also be usefully given to training — seminars, academic training, and non-academic training. These training activities can increase our understanding of marketing while, at the same time, train men to work in marketing.

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*Section VII*

**SUMMARY AND CONCLUSIONS – GUIDES  
FOR AID/USDA POLICY**



## SUMMARY AND CONCLUSIONS – GUIDES FOR AID/USDA POLICY

Marketing problems in the developing countries are not new. But the concern and commitment to solve them, as reflected in policy statements by Paarlberg and Peterson and the large participation in the seminar, is a recent phenomenon. The new interest has been generated in part by the recent "green revolution" which exacerbated and dramatized such chronic problems as inadequate transportation and storage, poor market information, and lack of capital.

Many seminar participants discussed marketing problems in terms of the producer. But, as seminar discussions evolved, the consumers' interest in efficient marketing and marketing's role in overall national development also became clearly evident. The need for dealing with marketing problems on an integrated national basis which serves producers, consumers, and the goals of the nation was generally accepted.

Experiences and insights were shared on how work in marketing might best be carried on. The following points were stressed: (a) Local individuals and institutions need to be involved in proposed marketing reforms. (b) An interdisciplinary team effort is needed to encompass all aspects of a marketing system. (c) Follow-through on marketing efforts throughout the agricultural system is necessary to assure effective linkage between production and distribution (Riley, Johnson, Ward, Frost).

Some raised questions on the nature and purpose of marketing systems (Peterson, Goldberg, Mayer). They pointed out a need to define objectives of the system in order to appraise its performance and to consider improvements.

Marketing means different things and has different objectives for the producer, consumer, distributor, and for those concerned with national development. Conflicts among contending interests and conflicting objectives are usually resolved by political as well as economic processes. Hence, in AID-USDA work, there is need to reckon with the loci of power in the market place, the forces affecting marketing policy, and how the market-

ing system serves the different groups (Goldberg and Riley). The national nutrition policy of India, cited by Berg, is an example of a political decision on food policy whereby the GOI recognized a responsibility to improve the diets of the poor. There is need to help create institutional arrangements in the marketing system which may contribute to the satisfaction of several objectives.

A number of specific areas of activity for the new AID-USDA effort were given high priority:

(1) *Identification of technical assistance and research needs.* Despite many ideas on the shortcomings of marketing systems in developing countries, there was agreement that problems need to be better identified, alternative solutions weighed, and priorities assigned. Technical assistance was seen as needed for improving marketing services such as grades and standards, and also for developing improvements in technology and institutional arrangements. The Feister and Caton proposals for research institutes concerned with a wide range of marketing problems encountered in the Latin American hemisphere (and other regions) reflected this concern. Research topics mentioned included the following: (a) Technical and economic efficiency in marketing; e.g., government vs. private sector marketing performance; government policy as a constraint on technological change or private sector enterprise; scale and efficiency of marketing firms; processes of market development and expansion; relative efficiency of different types of market organizations. (b) Interdependence of production, marketing, and economic development; e.g., labor use and employment in marketing; nutritional levels – effective demand and need.

(2) *Improvement of marketing management capability.* Seminar participants noted that marketing management was a most critical constraint and urged AID-USDA efforts to improve the capability of public and private policy makers to deal with complexities of modern marketing systems.

Many speakers stressed the need to bring about a market orientation among producers as well as distributors and to create a better understanding of the role of marketing in the development process among public and private marketing officials (Ward, Horne). Some suggestions to accomplish this were: (a) Seminars in Latin America and other regions which would increase understanding of the importance of marketing in national development and identify projects on which capital or technical assistance could be useful. (b) Special short courses such as those programmed by the U. S. Department of Agriculture, the International Marketing Institute at Harvard, and special programs at other universities to reach a larger number of marketing managers. Such courses should encourage a more innovative approach in institutional arrangements as well as in the adoption of new technology to modernize marketing. (c) Technical assistance on how to conduct analyses of market potentials and to devise market development strategies.

(3) *Marketing information for consumers, producers, and distributors.* Several speakers noted the need for better information, more widely disseminated, to improve decision-making throughout the marketing systems. Ellis and Berg noted that there are functional illiterates in respect to nutrition; poor diets are caused by a lack of knowledge as well as a lack of income. Among the specific suggestions made were: (a) Development of market news networks for principal food crops for regions such as Latin America; (b) Improvement of the delivery system of food and of information on nutritional qualities of food — particularly for low income groups.

There was a consensus on several points concerning how the work should be done:

(1) A more systematic approach to the identification of marketing problems. The development of such an approach was given high priority by French and Mayer; the views of Riley, Goldberg, and Call were in a similar vein. They urged that a systems approach be used rather than to seek solutions to isolated problems. They said in part: (a) Marketing problems should be tackled within the context of a larger system, for which the objectives have been identified and articulated. (b) AID-USDA assistance should be considered where there was access to the system and possibilities for effectiveness in

shaping/altering the system to attain its objectives. (c) Different alternatives need to be formulated for a given problem and the likely costs and benefits of each alternative estimated.

With this approach, some of the specific proposals that were made fall into place; e.g., if one objective of a marketing system is to bring about greater stability in supplies and prices of basic food crops, then we assess and adjust price policies accordingly (Harris). And these adjustments are different from those which would be made if the objective was simply to provide incentives for higher production. If another objective is a more adequate food supply or better diet for all the people, then we are concerned with delivery systems and nutritive value of foods for the poor, the young, and other vulnerable groups, as well as with improvements in the commercial marketing systems.

(2) Many marketing problems are location specific and are related to a country's stage of economic development; hence, assistance should be tailored to country needs (Peterson, Feister, Smith, Jones). At the same time there was consensus that much could be learned by a comparative approach and by developing a general framework for the identification of marketing problems.

(3) A functional rather than a commodity approach should be developed in providing technical assistance in marketing. Problems most often took the form of shortcomings in marketing functions such as storage, transportation, and retailing. Hence, even though there was a concern for a few major commodities such as rice or wheat, there was general agreement that technical assistance would probably be more useful if focused on functional problems.

(4) The limits of policy persuasion and of AID-USDA technical assistance leverage needed to be considered. In the light of current foreign aid posture and country receptivity, there is need for careful assessment of alternatives of place, time, and manner in which AID-USDA might seek to influence country marketing systems. Changes which are primarily technological offer possibilities for introducing change with limited resistance by recipients with entrenched interests. Involving private agribusiness elements offers additional scope for assistance to improve marketing systems.

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